

Information Bulletin

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Western Association of Map Libraries

*"... to encourage high standards in every phase of organization
and administration of map libraries..."*

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A Geological Perspective

... a column for reports of cartographic products of interest to geoscientists and geoscience developments of interest to map librarians.

Searching for Maps in GeoRef*

by

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* Presented at ALA MAGERT, June 27, 1981

I. Introduction

What do you do when someone comes into your map collection asking for a specific kind of map like a geologic map of San Francisco, not knowing whether such a map exists? Probably you look in your collection first. If you don't find it in your collection, the next step is determining whether or not such a map exists at all. GeoRef is one of the tools that can help you do that.

Map librarians are quite conversant with online sources of cataloging data such as OCLC and RLIN but seem to be less familiar with other vendors of bibliographic information such as Dialog and SDC. Often Dialog and SDC are available in the map librarian's organization, but usually in another department such as reference. And that other department may not have expertise with GeoRef or with searching for maps.

This paper should give map librarians enough information to decide when GeoRef would be of use in searching for maps, and also provide a summary of the techniques for searching for maps which should be of use even to experienced GeoRef searchers.

First, we'll consider the scope of the GeoRef database and the role of the vendors in making the database accessible. Second, we'll look at a sample search for maps in GeoRef. Then we'll go through the unit record noting all the data elements which can help in a search for maps. Finally, I'll summarize the basic ways of searching for a map in GeoRef.

II. Background

GeoRef is a database produced by the American Geological Institute. The purpose of GeoRef is to cover the worldwide technical literature on geology and geophysics. It corresponds to five printed products. The Bibliography and Index of Geology is the only one which is current. The others are the Bibliography and Index of Geology Exclusive of North America, the Bibliography of North American Geology, the Bibliography of Theses in Geology and Geophysical Abstracts. The database at this time goes back to 1961 for the North American material and back to 1967 for the worldwide material. It is updated monthly and contains about 700,000 records. Coverage is international, with about 40% of the indexed publications originating in the U.S.

In Figure 1, a schematic of the relationships among database producers, vendors and users, AGI falls into the box labelled "Indexers." The GeoRef staff look at journals, books, reports, maps, etc., and record the essential bibliographic information and assign subject headings. This information

is stored on computer tape and used to produce the Bibliography and Index of Geology. The tape is also sold to vendors (in this case to System Development Corporation and to Lockheed) who load it on their computers and make it available for searching.

The content of the database, then, is the responsibility of AGI, and questions about the scope and the indexing policy can be directed to them.

(American Geological Institute, One Skyline Place, 5205 Leesburg Pike, Falls Church, VA 22041; 1-800-336-4764).

The search services are responsible for the way the file is searchable and you should contact them directly about access and search system training. GeoRef is available from SDC for \$95 per connect hour and \$.25 per citation for offline prints (SDC Search Service, System Development Corporation, 2500 Colorado Avenue, Santa Monica, CA 90406; 800-352-6689 (CA) or 800-421-7229 elsewhere). GeoRef is available from Dialog for \$65 per connect hour and \$.20 per citation offline (Dialog Information Services, Inc., 3460 Hillview Avenue, Palo Alto, CA 94304; 800-982-5838 (CA) or 800-227-1960 elsewhere). In order to search well, you must know both the database and the search system.

There are various aids to searching, some produced by the database producer, some by the search services. AGI publishes the GeoRef Thesaurus (new edition due summer, 1981) and the GeoRef Newsletter. They also conduct workshops around the country on using their databases. The search services both have manuals for detailed information about GeoRef and a one-sheet publication which is helpful to have at hand when you're searching. These are Dialog's "blue sheets" and SDC's Quick Reference Guide.

III. Sample Search

The sample search (Figures 2 and 2A) was done on Dialog. The numbers in the following descriptions of the search correspond to the numbers in the margin of the sample search.

Figure 2:

- (1) Dial Dialog's phone number and connect the terminal.
- (2) When the system responds, (3) type your password. (4) Dialog responds with "logon" information and news. (5) Tell it you want file 89, the number for the GeoRef file, by typing b (for begin) 89. (6) It changes files and tells you how long you were in the previous file. (7) When it gives you a ?, tell it to search for the term San Francisco by typing s (for search) San Francisco. (8) Dialog tells you there are 172 citations which have the term San Francisco. This is

set 1. (9) You ask it to search for the terms/map or maps. (10) Dialog tells you there are 50,670 citations which have the terms map or maps. This is set 2. (11) Type s DT=map to ask it to search for the document type map (more about document type later). (12) It tells you there are 9519 citations with the document type map. This is set 3. (13) Tell it to combine sets 2 or 3. This will give us a set of all citations with the terms map or maps or the document type map. (14) There are 51,824 citations in set 4. (15) By telling it to combine sets 1 and 4, you will get the set of citations which have both San Francisco and map or maps or DT=maps. (16) There are 17 of these.

Figure 2A:

(17) Tell Dialog to type out online from set 5 /in format 3/ the first 5 references by typing "T5/3/1-5." The references come out in reverse order of their addition to the file, the newest first. (18) Dialog types the first reference. The other 4 are omitted from the figure. (19) Type "PR5/5/1-17." Tell Dialog to print offline from set 5 /in format 5/ citations 1-17 (the full set). (20) Dialog confirms the print. (21) When you are finished type "Logoff." (22) Dialog tells you the date and time of logging off and how much money you've spent online since the last begin command.

Figures 3 and 4 are examples of offline prints from Dialog and SDC.

IV. Unit Record

Figure 3 is a unit record from the database as it appears in Dialog. There are three kinds of elements that are of interest in searching for maps: 1) those which designate the map format (title, descriptors, notes and document type), 2) those which designate the geographic area (title, descriptors and coordinates), and 3) those which define the subject of the map (title, descriptors and section headings).

A. Title

Often the words map or maps are used in the title of a map. The subject and geographic area are also often in the title. All title words are in the Basic Index in both SDC and Dialog. (This means they are automatically searched.)

B. Descriptors

Many assigned descriptors are in the GeoRef Thesaurus. The thesaurus lists the types of maps indexed often enough to require a descriptor in the thesaurus (Figure 5). Descriptors can describe the format (e.g. geologic maps), the geographic area (e.g. Santa Cruz Canyon) or the subject (e.g. gravity survey).

Defining geographic area is often a problem.

"GeoRef contains a lot of geographic terms, geologic-geographic terms, and physiographic terms. More than 50%, in fact. The general approach to indexing the geography at GeoRef is to include as many geographic terms as possible, from major area terms (Benin, Spain) to the smallest unit specified in the paper being cited (Timbuktu, Gibraltar). Thus for the United States as an example, the practice is to include the name(s) of state(s), major physiographic regions (e.g., Appalachians) if applicable, county (or counties), water bodies (rivers, lakes), basins, arches, swells and broads. The term 'United States' is always added to the document assuring retrieval of all papers on the major area unit without being forced to search for all states or countries as the case may be. The major area unit in most cases is the continent or ocean, or a major political subdivision like the US, USSR, Canada, and Mexico.

"The authorities for inclusion of geographic terms in the GeoRef Thesaurus are: The Columbia Lippincott Gazetteer of the World, the U.S. Board of Geographic Names, and the Times Atlas of the World. The major factor in inclusion or exclusion is the frequency of usage in the system." (GeoRef Newsletter, V.2 #1, April 1979.)

- C. Document type (DT): Map is one of the designated document types. However DT has only been assigned since 1975, so searching DT=map cuts out all material earlier than 1975. You'll recall from the sample search in Figure 2 that there were only 9519 citations with the document type map out of some 51,000 citations with the term map.
- D. Source or note: GeoRef notes the scale of the map, and notes sketch maps (those smaller than a page) in what is called the source field in SDC and the note field in Dialog. It is possible to stringsearch in SDC to locate a sketch map or restrict a scale.

In order to stringsearch, you first create a set of relevant citations, then give the command to stringsearch. Figure 7 is a sample search of this technique used to search coordinates in SDC.

It is rarely worthwhile to try to restrict the scale in your search. You can't range; that is, you must specify the scale and cannot ask for 1:24,000 or larger. One rarely needs sketch maps either. But if you were trying to be absolutely comprehensive about a particular area, stringsearching this field would be a useful technique.

It is not possible to search the note field in Dialog.

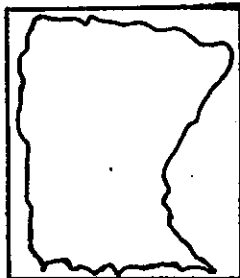
- E. Coordinates: Coordinates have been applied to documents as specific areas since September, 1977. According to Ghassan Rassam, writing in the GeoRef Newsletter, V.2, April 1979,

"This information is in addition to the geographic index terms discussed above. For a paper to be assigned these coordinates it must meet the following criteria:

- a. The paper must deal with geography in a way relevant to the geology of the area. Studies on geologic research in West Germany do not receive coordinates, whereas studies on the geology of West Germany do.
- b. The paper must deal with a geographic area of reasonable size, usually a political subdivision (country) or smaller. The United States or Europe don't receive coordinates but Southwestern Kansas does. Parts of seas and oceans receive coordinates. Usually one set of coordinates is supplied but sometimes two (when the study compares samples from two widely disparate areas). Studies on samples from widely scattered regions (such as geochemical studies) may not get coordinates at all, since it is felt that the geography is incidental and not relevant to the results in most cases.

W0971000

W0894500



N490000

N433000

The GeoRef editor, using standard atlases, defines a close-fitting rectangular area enclosing the region or features in the paper and proceeds to give four coordinates to that area: starting from the lower right-hand corner, a latitude is assigned, followed by the latitude of the upper right-hand corner (counter-clockwise), the longitude of that point, and finally the longitude of the upper left-hand corner.

"For facilitating the work, editors are given much latitude in assigning coordinates to a very small area, and the degree of confidence should be strictly applied only to degrees, not minutes and seconds.

"Many of the coordinates for larger regions have been entered in the Thesaurus file and are therefore assigned automatically, insuring some consistency. No such consistency is claimed for small (few degrees) areas.

"Finally, a geographic entity of very small proportions such as a town is assigned repeated latitudes and longitudes, i.e., subtracts on the two sets will give a zero."

Figure 6 shows the order in which GeoRef assigns latitude and longitude and the way the coordinates are written.

The files were loaded on SDC in such a way that you have to first search the appropriate five degree range (looked up in the user manual) and then stringsearch that set for the longitude and/or latitude desired (Figure 7).

I was never very successful at coordinate searching on SDC and anticipated greatly GeoRef's appearance on Dialog. However, I find searching coordinates on Dialog still disappointing, although it is significantly better than on SDC. On Dialog, first you search a range of latitude (e.g. `s lt=N353000:lt=N360000` where the `:` is the symbol for ranging). Then you search in the same way for a range of longitude. Then you "and" them together. Or you can use the command `ss` (select steps) to do this with one command.

You must include the proper number of 0's and the two latitudes (or longitudes) must be in numerical order. You'll note in Figure 8 that in searching for the South China Sea, we first tried `LN=E1280000:LN=E1050000`, the appropriate order for the way GeoRef assigns coordinates (counter-clockwise from the lower right-hand corner). However, Dialog found nothing in this range and it's because the longitudes must be in numerical order for the ranging to work. Then you "and" them together. (Figure 8)

What you get is a set of citations which had at least one latitude in the range of latitudes you asked for and at least one longitude in the range of longitudes. So you may pick up citations covering large areas outside the range you're interested in. For example, if you searched for New Mexico you might pick up citations for Colorado, whose southernmost latitude was the same as New Mexico's northernmost latitude. There might be nothing at all within the area you specified. GeoRef's suggestion to solve this problem is to "and" a geographic term (in this instance New Mexico) in order to cut out the garbage.

An interesting aside: You'll note in the sample search of SDC for latitude and longitude of Mt. Hood (Figure 8) there were 22 citations. When I did the same search in Dialog there were only 21. The citation in SDC which wasn't in Dialog was the one in Figure 9.

When I looked it up in Dialog to try to figure out why, I found that the Dialog citation had only one set of coordinates. The SDC one has two. As Rassam noted in the

Newsletter, GeoRef sometimes assigns two sets of coordinates. Apparently Dialog dropped the second set of coordinates.

This is not a serious decision because the term Mt. Hood is a subject heading, so you wouldn't have missed the citation in a real search. However, it illustrates how the way the tapes are loaded can make a difference even when the database is exactly the same.

- F. Section Headings (Categories) The hard copy Bibliography and Index of Geology is arranged by various subject categories (one set of categories for 1967-74 and one for 1975- (Figure 10).) Since 1975, all geologic maps larger than a page are included in Section 2-14, Areal Geology, Maps and Charts. So if you were looking for a geologic map you could combine 02-14/CC (in SDC) or SH-14 (in Dialog) with a geographic area term. This was suggested in GeoRef Newsletter, V.3 #1, May 1980, p. 1. But in testing it out, I found that it introduced a higher level of irrelevant hits (commonly termed garbage).

V. Summary and Conclusions

Geography and maps are important to geologists, and the GeoRef file reflects that importance. A single search of the file combining an area term with the term map or maps will elicit citations to maps picked up by GeoRef. More complicated strategies (such as coordinate searches) are useful for special cases. Figure 11 is a summary sheet of techniques and formats for searching which should serve as a summary of this paper as well as a useful tool to have near the terminal.

Figure 1

Schematic of the Relationships
Among Database Producers, Vendors and Users

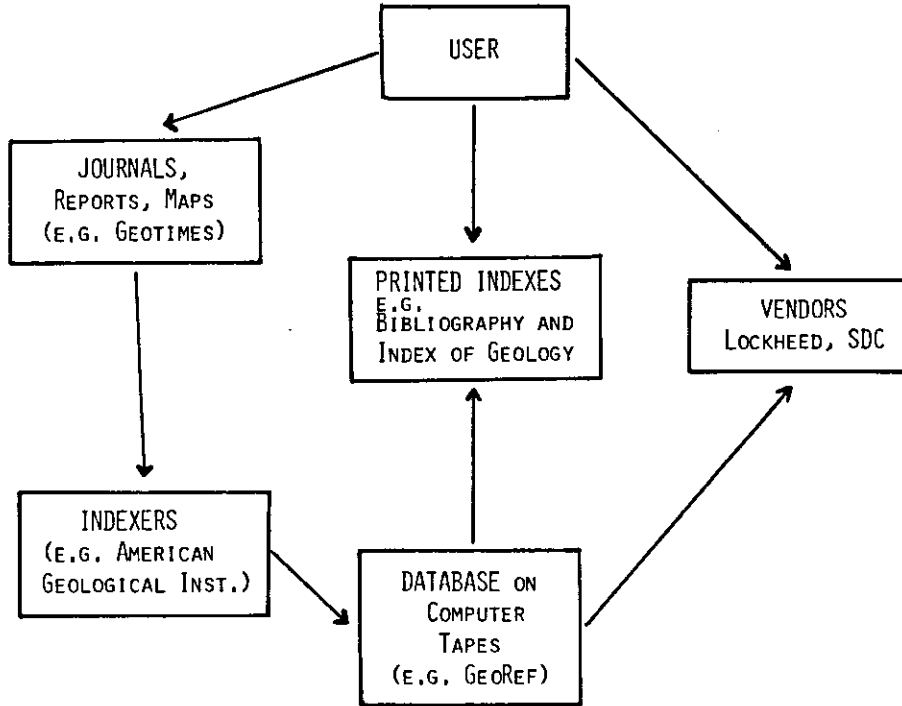


Figure 2

Sample Search of GEOREF on DIALOG, Part 1

(1)
(2) ENTER YOUR DIALOG PASSWORD
(3) ■■■■■■■■ LOGON File34 Mon 8jun81 17:07:42 Port056

(4) { ?NEWS news:
Free half-hour in June:
COMPRESSE DISSER INDEX (#35)
ENERGYLINE (#69)

Now available:
MEDLINE 75-79 (#153, 80+ (#154)
ONTAP DIALINDEX (#290)
TYMNET login change

(5) ? B89:
8jun81 17:07:56 User15251

(6) { \$0.60 0.005 Hrs File34*
File89:GEOREF - 61-81/.Jun
(Corr. American Geological Institute)
Set Items Description

(7) ? S SAN FRANCISCO
(8) 1 172 SAN FRANCISCO
(9) ? S MAP OR MAPS
22358 MAP
44718 MAPS
(10) 2 50670 MAP OR MAPS
(11) ? S DT=MAP
(12) 3 9519 DT=MAP
(13) ? C 2 OR 3
(14) 4 51824 2 OR 3
(15) ? C 1 AND 4
(16) 5 17 1 AND 4

Figure 2A

Sample Search of GEOREF on DIALOG, Part 2

- (17) 2 T5/3/1-5
 (18) 5/3/1
- Maps showing maximum earthquake intensity predicted in the southern San Francisco Bay region, California
 Boreherdt, R. D.; Gibbs, J. F.; Lajoie, K. R.
 U. S. Geol. Surv., Misc. Field Stud. Map MF-709. 3 sheets. 1975
 COLEN: XMFSD0
 Subfile: B
 Country of Publ.: United States
 Doc Type: SERIAL; MAP Bibliographic Level: MONOGRAPHIC
 Languages: English
 Note: Reprint, 1:125,000; eng. seol. maps
 Latitude: N370000; N375230 Longitude: W1213000; W1223730
 Descriptors: *seismology; #California; #Pacific Coast; earthquakes; engineering seology; intensity; maps; seologic hazards; Marin County; Contra Costa County; Alameda County; Santa Clara County; Santa Cruz County; San Mateo County; San Francisco; San Francisco Bay region; United States; Central California; prediction; engineering seology maps; seismicity
 Section Headings: 22 . (ENGINEERING & ENVIRONMENTAL GEOLOGY)
- (19) 2 T5/3/1-5
 (20) 5/3/1
- (21) LOGOFF
- (22) { \$4.62 0.071 Hrs File89 5 Descriptors
 \$0.60 3 Prints
 \$5.22 Estimated Total Cost
- LOGOFF 17:12:10

Figure 3

Sample of a DIALOG OFFLINE PRINT

1005183 80-45625

**Land use and land cover and associated maps for Albuquerque,
NW, New Mexico**
U. S. Geological Survey, USA
U. S. Geol. Surv., Open-File Rep. 79-1549, 1 sheet.,
1979
CODEN: XGROAG
Subfile: B
Country of Publ.: United States
Doc Type: SERIAL; REPORT; MAP Bibliographic Level:
MONOGRAPHIC
Languages: English
Availability: U. S. Geol. Surv., Rocky Mt. Mapp. Cent.,
Denver, Colo., United States
1:100,000; environ. geol. map
Latitude: N353000; N360000 Longitude: W1070000; W1080000
Descriptors: *New Mexico ; environmental geology ; land
use; maps; Sandoval County; McKinley County; land cover;
United States; Albuquerque region
Section Headings: 22 .(ENGINEERING & ENVIRONMENTAL GEOLOGY)

Figure 4

Sample of an SDC Offline Print

-1-

ACCESSION NUMBER	80-48775
TITLE	Land use and land cover and associated maps for Albuquerque, NW, New Mexico
ORGANIZATIONAL SOURCE	U. S. Geological Survey USA
SOURCE	U. S. Geol. Surv., Open-File Rep. (USA) (XGROAG), No. 79-1549, sheet, 1979, environ. geol. map, SCALE: 1:100,000
DOCUMENT TYPE	S (Serial); R (Report); MA (Map); MON (Monographic)
ISSUE	80-45625 (Bibliography and Index of Geology)
AVAILABILITY	U. S. Geol. Surv., Rocky Mt. Mapp. Cent., Denver, Colo., United States
CATEGORY CODES	2-22 (Engineering & environmental geology)
INDEX TERMS	*New Mexico; environmental geology; land use; maps.
SUPPLEMENTARY TERMS	Sandoval County; McKinley County; land cover; United States; Albuquerque region
COORDINATES	N353000; N360000; W1070000; W1080000.

Figure 5

A Page from the GeoRef Thesaurus

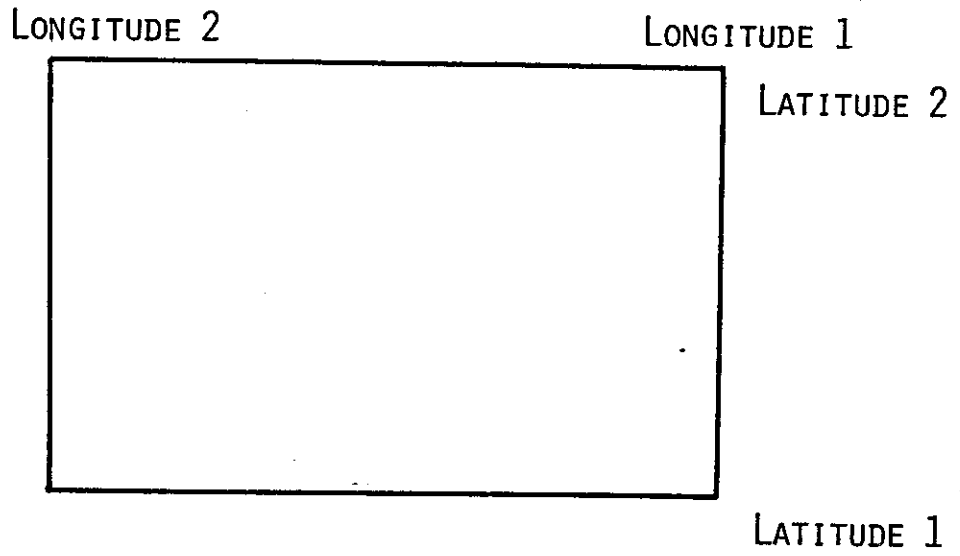
mangerite • Marajo

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- BT igneous rocks
SA plutonic rocks
- Mangyshlak Peninsula**
use Mangyshlak Peninsula
- Mangla Dam**
SE of Rawalpindi in N part of country. Also search Mangla
BT Punjab
Pakistan
- mangrove swamps**
Term introduced in 1978.
SA ecology
swamps
- Mangyshlak Peninsula**
On E coast of N Caspian Sea. Also search Mangyshlak.
CO N423000N450000
E0543000E05000000
UF Mangyshlak Peninsula
BT Kazakhstan
USSR
- Manhattan**
Island and borough of New York City at N end of New York Bay, and city in Riley County in NE central Kansas. Index states as applicable.
BX Kansas
New York
BT United States
- Manhattan Formation**
Dominantly a garnetiferous quartz-biotite-plagioclase gneiss characterized by sillimanite and locally much muscovite. SE New York, and W Connecticut
BT Precambrian
SA Connecticut
New York
New York City Group
- Manicouagan**
Lake and river in Saguenay County, N of St. Lawrence River.
BT Quebec
Canada
- Manihiki Plateau**
Undersea feature in the N Cook Islands area E of the Samoa Islands.
BT Pacific Ocean
- Manila Trench**
Just W of Luzon.
BT South China Sea
Pacific Ocean
- Manildra**
Village in E central
BT New South Wales
Australia
- Manistee County**
On Lake Michigan in the Lower Peninsula
BT Michigan
United States
- Manitoba**
Includes use on level 1 as an area term (list O). For term set options see list B
CO N490000N600000
W0893000W1020000
BA Canada
NT Beresford Lake
Bermic Lake
Bird River
Churchill
Flin Flon
Fort Churchill
Knee Lake
Lake Winnipeg
Lynn Lake
Nelson River
Nelson River basin
Riding Mountain National Park
Setting Lake
Snow Lake
Steinbach
- Tanco Pegmatite
Two Creeks
Winnipeg
- SA Amisk Group
Assiniboine River
Canadian Shield
Churchill Province
Elk Point Basin
Elk Point Group
Hudson Bay Lowlands
Lake Agassiz
Missi Group
Prairie Evaporite
Red River Formation
Rice Lake
Rice Lake Group
Saskatchewan River
Williston Basin
Winnipeg Formation
Winnipegosis Formation
- Manitou Formation**
Consists of finely to coarsely crystalline limestone and minor amounts of dolomite. E Colorado
BT Lower Ordovician
Ordovician
SA Colorado
- Manitoulin Island**
Largest lake island in world. In northern Lake Huron at NW end of Georgian Bay. Also search Manitoulin.
UF Grand Manitoulin
BT Ontario
Canada
- Manitouwadge**
Town N of Lake Superior.
BT Ontario
Canada
- Manlius Formation**
According to the latest published lexique, the age of Manlius Limestone (in Helderberg Group) is Lower Devonian
BT Lower Devonian
Devonian
SA New York
- Manning Park**
Provincial park in Cascade Mountains E of Vancouver.
BT British Columbia
Canada
- Mannville Formation**
In the lower Mannville Formation, basal well-sorted quartzose sandstones were deposited as shoreline sediments or as channel-fills. In the upper Mannville, stratigraphic traps formed in part by intertonguing of sandstones and shales. Also search Mannville Group.
UF Mannville Formation
BT Lower Cretaceous
Cretaceous
SA Alberta
Canada
- Mansley Formation**
Composed of hard calcareous mudstones, and calcareous and siliceous carbonaceous sandstone. S Mindoro Island
BT Jurassic
SA Mindoro
Philippine Islands
- Mansehra**
Village in N part of country
BT Punjab
Pakistan
- Mansfeld Syncline**
Also search Mansfeld
BT Halle
East Germany
- Mansfield Formation**
Lower and Middle Pennsylvanian
- Contains large amounts of shale, thin beds of coal under clay, and limestone, and is only locally predominantly sandstone.
BT Pennsylvanian
SA Indiana
Lower Pennsylvanian
Middle Pennsylvanian
- mantle**
Includes use on level 1 (list A); on level 2 under seismology(1). Used for the zone of Earth below the crust and above the core (to a depth of 3480 km). If 1, term set options are: topic [age, composition, earthquakes, elastic waves, evolution, genesis, geochemistry, interpretation, low-velocity layer, processes, properties, structure, temperature] subtopic [no area term]
NA lower mantle
upper mantle
SA asthenosphere
continental drift
convection
convection cells
convection currents
core
crust
degassing
discontinuities
Earth
earthquakes
elastic waves
geosynclines
geothermal gradient
heat flow
heat sources
hot spots
isostasy
lithosphere
low-velocity layer
low-velocity zones
Mohorovicic discontinuity
partial melting
plate tectonics
plates
sea-floor spreading
seismology
tectonophysics
transition zones
- manuals**
Includes use on level 3 as a term appropriate to a large number of topics, e.g. under education(1). See list G. Also search manual.
SA guidebook
textbooks
- Mannville Formation**
use Mannville Formation
- Mapimi**
Town in NE
BT Durango
Mexico
- mapping**
A valid term through 1977. From 1978 on use cartography. To search, see note under cartography.
- maps**
Includes use on level 1 (list A); on level 2 under geomorphology(1), land use(1), and environmental geology(1). Also search map. If 1, term set options are: cartography [for method, instrument, program] subtopic topic [for global maps, list B except for areal geology] subtopic (no area term) e.g. type of map [e.g. economic geology, environmental geology, geologic maps, geomorphologic maps, hydrogeologic maps, photogeologic maps, soils maps, surficial geology, tectonic maps] NA bathymetric maps contour maps economic geology maps geochemical maps geologic maps geomorphologic maps geophysical maps gravity survey maps hydraulic maps hydrogeologic maps index maps isograd maps isopach maps isopleth maps isoseismic maps lithologic maps magnetic survey maps paleogeographic maps photogeologic maps stratigraphic maps structural maps structure contour maps tectonic maps topographic maps aerial photography areal geology atlas cartography catalogs coordinates diagrams engineering geology environmental geology explanatory text geodesy geomorphology geophysical methods geophysical surveys isograds land use legend mineral exploration Moon photogeology road log structural geology surficial geology surveys
- Maputo**
New name for city of Lourenco Marques located on Delagoa Bay in S part of country.
BT Mozambique
- Maquoketa Formation**
In Missouri, it is typically thin laminated shale interbedded with shaly limestone members. W Illinois. E Iowa, S Minnesota, E Missouri, and SW Wisconsin
BT Upper Ordovician
Ordovician
SA Illinois
Iowa
Minnesota
Missouri
Wisconsin
- Maracaibo Basin**
NW part of country. Index Lake Maracaibo and states as applicable.
BT Venezuela
SA Lake Maracaibo
Merida
Trujillo
Zulia
- Marajo**
Largest island in Amazon Delta
BT Para
Brazil

Figure 6

Assignment of Latitude and Longitude



LATITUDE 1;	LATITUDE 2;	LONGITUDE 1;	LONGITUDE 2
N353000;	N360000;	W1070000;	W2080000

Figure 7

Sample Coordinate Search on SDC

HELLO FROM SDC/ORBIT IV. (06/09/81 2:18 P.M. PACIFIC TIME)
ENTER SECURITY CODE:

■■■■■■■■■■

PRG:
YOU ARE NOW CONNECTED TO THE ORBIT DATABASE.
FOR A TUTORIAL, ENTER A QUESTION MARK. OTHERWISE, ENTER A COMMAND.

USER:
FILE GEOREF

PRG:
ELAPSED TIME ON ORBIT: 0.01 HRS.
YOU ARE NOW CONNECTED TO THE GEOREF DATABASE.
FILE COVERS FROM 1961 THRU JUN (8106).

SS 1 /C?

USER:
N45-46 AND W120-124 AND OREGON

PRG:
NO PSTG (N45-46).
SS 1 PSTG (0)

SS 2 /C?

USER:
N45-49 AND W120-124 AND OREGON

PRG:
SS 2 PSTG (552)

SS 3 /C?

USER:
STRS 2/CORD :N452500:W1214000:

P
PRG:
(86) SEARCHED (6) MATCH. CONT? (Y/N)

USER:
Y

PRG:
(160) SEARCHED (11) MATCH. CONT? (Y/N)

USER:
Y

P
PRG:
(241) SEARCHED (22) MATCH. CONT? (Y/N)

USER:
Y

PRG:
(319) SEARCHED (22) MATCH. CONT? (Y/N)

Figure 8

Sample Coordinate Search on DIALOG

```

? S SOUTH CHINA SEA
  14  93 SOUTH CHINA SEA
? SS LT=N000000:LT=N200000 AND LN=E1280000:LN=E1050000
  15  9913 LT=N000000:LT=N200000
  16    0 LN=E1280000:LN=E1050000
  17    0 15 AND 16
? S LN=E1050000:LN=E1280000
  18  4656 LN=E1050000:LN=E1280000
? C 15 AND 18
  19  695 15 AND 18
? C 19 NOT 14
  20  662 19 NOT 14
? T20/3/1-3
20/3/1
1042031  81-26237

```

```

Tectonics of North Vietnam
Van Dyk T'Yons
Geotectonics, English Edition 14: 2, 142-150p., 1980
CODEN: GEOTBK ISSN: 0016-8521
Subfile: B
Country of Publ.: United States
Doc Type: SERIAL Bibliographic Level: ANALYTIC
Languages: English
illus.

```

Figure 9

Citation Appearing in SDC Coordinate Search but not in DIALOG

-11-

```

AN - 80-39030
TI - DESIGN AND APPLICATION OF A NEGATIVE-MOMENT ELECTROMAGNETIC DIPOLE SOURCE
    [ABSTR]
AU - RIVEROS, C. A.; GOLDSTEIN, N. E.
DS - UNIV. CHIC. CHICAGO, ILL. USA; LAWRENCE BERKELEY LAB. USA
SD - SOC. EXPLOR. GEOPHYS., ANNU. INT. MEET., ABSTR. (USA) (SGAMB7), No. 49,
    P. 103, 1979 ( SOCIETY OF EXPLORATION GEOPHYSICISTS, 49TH ANNUAL
    INTERNATIONAL MEETING, NEW ORLEANS, LA., NOV. 4-8, 1979)
DT - S (SERIAL); C (CONFERENCE PUBLICATION); ANL (ANALYTIC)
IS - 80-35065 (BIBLIOGRAPHY AND INDEX OF GEOLOGY)
CC - 2-20 (GEOPHYSICS, APPLIED)
IT - *GEOPHYSICAL METHODS; ELECTROMAGNETIC METHODS; INSTRUMENTS; *GEO THERMAL
    ENERGY; EXPLORATION.
ST - CLACKAMAS COUNTY; HOOD RIVER COUNTY; FIELD STUDIES; NEVADA; UNITED
    STATES; GRASS VALLEY; OREGON; MOUNT HOOD
CORD- N350000; N420000; W1140500; W1200000; N452500; N452500; W1214000;
    W1214000.

```

Figure 10

Subject Categories in GeoRef

1975-to-Date Category Codes

- 2-01 Mineralogy and Crystallography (mineral data, crystal structure, crystal chemistry, crystal growth, phase equilibria, etc.)
- 2-02 Geochemistry (surveys, trace elements, isotopes, cycles, instruments, etc.)
- 2-03 Geochronology (absolute age, fission-track, time scales, tephrochronology, tree rings, exposure age, etc.)
- 2-04 Extraterrestrial geology (Moon, Venus, Mars, Mercury-Planet, Jupiter, planetology, etc.)
- 2-05 Petrology, igneous and metamorphic (igneous rocks, metamorphic rocks, metasomatism, metamorphism, phase equilibria, magmas, lava, intrusions, inclusions, etc.)
- 2-06 Petrology, sedimentary (sedimentary rocks, sediments, sedimentation, diagenesis, sedimentary structures, etc.)
- 2-07 Marine geology and oceanography (ocean floors, ocean basins, ocean waves, circulation, continental shelf, continental slope, etc.)
- 2-08 Paleontology, general (studies on fossil plants and animals, concepts, life origin, applications, methods, etc.)
- 2-09 Paleontology, paleobotany (fossil plants, palynology)
- 2-10 Paleontology, invertebrate (taxonomy, morphology, evolution, etc.)
- 2-11 Paleontology, vertebrate (taxonomy, morphology, evolution, etc.)
- 2-12 Stratigraphy, historical geology and paleoecology (biostratigraphy, lithostratigraphy, evolution of land masses, paleomagnetism, paleogeography, biogeography, etc.)
- 2-13 Areal geology, general (area studies dealing with more than one aspect of geology)
- 2-14 Areal geology, maps and charts (maps, cross sections, diagrams, with no separate text)
- 2-15 Miscellaneous and mathematical geology (biography, bibliography, annual reports, popular and elementary geology, mathematical principles, historical accounts, etc.)
- 2-16 Structural geology (tectonics, folds, faults, fractures, structural analysis, orogeny, etc.)
- 2-17 Geophysics, general (theoretical studies, experimental studies, models, observatories, etc.)
- 2-18 Geophysics, solid-earth (tectonophysics, plate tectonics, sea-floor spreading, crust, mantle, core, paleomagnetism, plate tectonics, etc.)
- 2-19 Geophysics, seismology (earthquakes, elastic waves, etc.)
- 2-20 Geophysics, applied (geophysical surveys, geophysical methods)
- 2-21 Hydrogeology and hydrology (ground water, drainage systems, recharge, hydrochemistry, etc.)
- 2-22 Engineering and environmental geology (foundations, earthquakes, dams, reservoirs, storage, rock mechanics, soil mechanics, pollution, conservation, reclamation, etc.)
- 2-23 Surficial geology, geomorphology (landform description, landform evolution, environment, etc.)
- 2-24 Surficial geology, quaternary geology (glacial features, glaciation, sediments, palynology, stratigraphy, etc.)
- 2-25 Surficial geology, soils (genesis, morphology, composition, etc.)
- 2-26 Economic geology, general and mining geology (mineral resources, water resources, production, concepts)
- 2-27 Economic geology, metals
- 2-28 Economic geology, nonmetals
- 2-29 Economic geology, energy sources (petroleum, gas, coal, oil shale, geothermal energy, etc.)

Figure 11
SUMMARY SHEET: SEARCHING FOR MAPS IN GEOREF

SEARCH STEPS	LIMITS, CAUTIONS	SAMPLE FORMAT FOR LOCKHEED	SAMPLE FORMAT FOR SDC
<p>I. GEOGRAPHIC AREA</p> <p>A. Determine <u>geographic terms</u>. (Use the GeoRef Thesaurus)</p>		<p>S Mount Hood or Mt. Hood</p>	<p>Mount Hood or Mt. Hood</p>
<p>B. If necessary use <u>coordinates</u>. In Dialog, "or" the geography with coordinates. In SDC, stringsearch a broader geographic set for the coordinates of interest. Coordinates have been assigned since 1977 to papers and maps with geographic aspects. They are assigned in order from SE corner to NE corner to NW corner. Always combine coordinates with a geographic term. Coordinates are most useful in searches of the oceans.</p>	<p>1977 - You need the right number of zeros.</p>	<p>SS LT=N353000;N360000 and LN=W1070000;W1080000 (Dialog looks for the range between the numbers you put in.) (Range must be in numerical order.)</p>	<p>N35-39 (Look up correct range in SDC GeoRef user manual.) STRS 1/CORD:N353000;W1073000: (The 1 is the set number for the set you want string-searched.) (SDC looks for the exact LN & LT you put in.)</p>
<p>III. MAPS</p> <p>A. "And" the document type for map if you're only interested in citations since 1975. If you want everything, search the terms "map" or "maps" (in titles & subject headings) "or'd" together with document type.</p>	<p>1975-</p>	<p>S DT=map S map or maps</p>	<p>map/DT map or maps all map#</p>
<p>B. If you also need sketch maps (smaller than a page) or if you wish to restrict the scale, stringsearch the source (on SDC).</p>			<p>STRS 1/SO :map: (The 1 is the set number of your geographic set.)</p>

Bench Marks !

¶ MARY SCHELL

Charter Member of WAML, fourth President in 1970/71, Editor of the WAML Information Bulletin for Volume 2, has announced her intent to retire as Head, Government Publications Section, California State Library, Sacramento, and as a Member of WAML.

She was elected in 1969/70 as President/Elect and worked with President Robert Sivers on general program planning, she contacted speakers and arranged programs, arranged for meeting sites and participated as a member of the Executive Committee. As President, in addition to leading the General Membership meetings and the Executive, she edited the Information Bulletin. At that time, WAML had 56 individual Members, 8 Institutional Members, and 10 subscribers to the Information Bulletin.

On behalf of the entire WAML Membership, thanks and congratulations are extended to Mary Schell for her long and devoted support of WAML and her many contributions toward building WAML's reputation as an organization oriented toward serving its membership.

Good luck and good health in your active retirement!

¶ MARVIN FALK

Member of WAML, formerly the Arctic Bibliographer at University of Alberta, Fairbanks (Elmer E. Rasmuson Lib.) has accepted a newly created position as Curator of Rare Books at the Rasmuson Library.

He recently completed a sabbatical leave taken at Cambridge University, England. He worked on maps of the Alaska region published in Europe. The results of his bibliographic work will be published by Garland Press as the Cartobibliography of Alaska to the Year 1900.

He presented a paper entitled *Images of pre-discovery Alaska in the work of European cartographers* at the Conference on the History of the Discovery of the Arctic Regions as seen through the Descriptions of Travellers and the Work of Cartographers from early Antiquity to the 18th Century. It was held at the Vatican, October 5-9, 1981.

{The Rare Map collection continues to be part of his responsibilities as Curator of Rare Books. His old position as Arctic Bibliographer was opened for recruitment until November 3, 1981 - salary range \$37,211.- \$46,134.}

¶ STEVEN Z. HILLER Member of WAML, Map Librarian, University of Washington Libraries, Seattle, recently announced the results of his re-inventory of the Map Collection. When he was hired at the University he expressed his estimate that the 344,347 total items (325,000 maps) as reported in the third edition of *Map Collections in the United States and Canada* (New York, Special Libraries Association, 1978) was incorrect.

The inventory took a considerable amount of time, and partially due to an evaluation of the condition of the collection taken at the same time; the results are: 201,000 maps; condition: 20% good, 70% fair; 10% poor.

¶ JOHN SUTHERLAND Associate Member of WAML, Map Specialist, Science Library, University of Georgia, Athens, is now attending Library School at the University of Michigan on a fellowship.

¶ CYNTHIA ANN EVERITT Member of WAML, free-lance librarian in Salt Lake City, is interested in receiving some feed-back on her article *Security in Map Collections* which appeared in the Winter 1981 issue of Library Trends. She may be reached at 609 7th Ave., Salt Lake City, UT 84103, or a Letter to the Editor of the WAML Information Bulletin will reach her as well as all librarians interested in this vital/crucial topic.

¶ ANNA CHIONG Member of WAML, Geography Librarian and Head of the Geography Library, University of Washington, has retired as of Dec. 31, 1981.

¶ ALICE HUDSON was named Chief of The New York Public Library's Map Division, effective Oct. 19, 1981.

Since January 1978, Ms. Hudson has been first assistant in the Map Division under Gerard Alexander, who retired in May 1981 after 35 years of service.

Ms. Hudson joined NYPL as a map cataloger-reference librarian in 1970. She is a member of the New York Map Society, ALA, and Special Libraries Association.

(NYPL, Fifth Ave at 42nd St., New York, NY 10018
(212) 930-0587) Map Division

¶ EDWARD THATCHER

Founding Father of WAML, who was honored at the March 26, 1981 meeting in San Francisco upon his retirement, has been named Map Librarian Emeritus by the University of Oregon.

He sends the following Note of Thanks:
"I offer much gratitude to all WAML members for the appropriate and beautiful retirement ceremony and gift which came to me at the dinner of the Spring meeting, 1981 in San Francisco. My wife and I are very proud of the handsome 12" Replogle globe now in our home. My special thanks to Dave Lundquist, the 1980-81 Executive Committee and to Harold Otness, LaVonne Jacobsen, Sue Trevitt-Clark, and Sheila Dowd for conspiring with the committee and for their special parts in that light-hearted, memorable ceremony.

Ed, who received WAML's first Honorary Life Membership at that occasion, and his wife will be hosts at a traveler's hostel for two years. Travelers or correspondents may find them at:
 Friends Centre
 115 Mt. Eden Rd.
 Auckland, 3, N.Z.

¶ STANLEY STEVENS

"The Geography and Map Division, Special Libraries Association, Honors Award for outstanding achievement in map librarianship was first presented in 1955. Nineteen eminent map librarians have been recipients through the years, all in institutions east of the Mississippi. In 1981 for the first time the award goes to a West Coast map librarian, Stanley D. Stevens, University of California, Santa Cruz."

So reads the citation, presented by Jean Ray, Map Librarian, Southern Illinois University, Carbondale, at the annual business meeting of SLA G&MD, Atlanta, June 15, 1981.

Serving on the Honors Committee with Ms. Ray were Roman Drazniowsky, American Geographical Society (University of Wisconsin-Milwaukee), and James A. Flatness, Library of Congress Geography and Map Division.

The full text of the citation appears in the Bulletin of SLA G&MD (No. 125, Sept. 1981, pp. 41-42.)

HONORS AWARD

The Honors Award of the Geography and Map Division, Special Libraries Association, is given upon recommendations of the membership at the discretion of the Honor Awards Committee, to an individual who has made an outstanding contribution in the field of geography, cartography, or map librarianship, either for specific activities or for general service and contributions in these fields. Past recipients are listed below. (Two awards were given in 1959. No award was made in 1956, 1958, 1960, 1966, 1969, 1971, 1974, 1979.)

1955	Marie C. Goodman	Library of Congress
1957	Clara E. LeGear	Library of Congress
1959	Ena L. Yonge	American Geographical Society
1959	Bill M. Woods	University of Illinois and Library of Congress
1961	Arch M. Gerlach	Library of Congress
1962	George R. Dalphin	Dartmouth College
1963	Walter W. Ristow	Library of Congress
1964	Nordis Felland	American Geographical Society
1965	Esther Ann Manion	National Geographic Society
1967	Alexander O. Vietor	Yale University
1968	Richard Edes Harrison	Department of State
1970	Charles W. Buffum	Library of Congress
1972	Robert Curtis White	University of Illinois
1973	Catherine I. Bahn	Library of Congress
1975	Lynn S. Mullins	American Geographical Society
1976	Mary Murphy	Defense Mapping Agency
1977	Richard W. Stephenson	Library of Congress
1978	Mary Galneder	University of Wisconsin
1980	Maud D. Cole	New York Public Library
1981	Stanley D. Stevens	University of California - Santa Cruz

PHYSICAL PLANNING FOR MAP LIBRARIES - THE PROCESS*

by

Gloria Novak
Library Space Planner
University of California
Berkeley

Introduction

Floor space has run out for the map cases that are needed for the new maps which continue to pour in, or dribble in, whichever the case may be. The automatic response is to look for more space in the building for map storage or to stack the map cases higher. Either, or both, of these alternatives may prove to be solutions to the map library's space problem. However, I submit that these alternatives may not be the most appropriate solution and may be merely shortsighted, band-aid solutions staving-off the larger and more critical problems smoldering unseen in the background or lurking in the not-so-distant future.

The problem is to discover what the problem is. The discovery process requires action in three major areas: inventorying the existing map library and its operation and identifying a variety of related problems, establishing goals to serve as guidelines for the final solution, and investigating programs and technology to improve service and save space.

Inventory and Problem Identification

The first step in this discovery process is to describe the existing map library, its operation, and its general environment. To do this it is necessary to inventory the collections, the public services, and the staff operations. This information will also prove invaluable later in developing the final solution. After the inventory has been completed, the next step is to identify the problems which affect all aspects of the library operation. A word of caution here: do not be conditioned by tradition. Just because something cannot be done the way it has traditionally been done by map librarians does not necessarily indicate a problem; nor does the ability to do things in a traditional manner indicate that there is no problem. What is paramount is the endeavor to provide a superior public service; is this endeavor being hampered by the physical environment?

Collections

- The following are some items to be included in the inventory of the collections:

- Size of the current collection.
- Rate of future growth, at least a five-year projection, possibly a ten-year.

* Presented at the Spring Meeting, March 27, 1981, of the Western Association of Map Libraries held at the San Francisco Public Library.

Text finalized and presented for publication May 11, 1981.

- Identify and count discrete collections, such as rare maps, rolled maps, relief maps, nautical maps, and microform collections.
- Size of the book/atlas collections. A separate count for those volumes requiring special folio shelving is important.

This list is not exhaustive.

In examining the collection, carefully consider if it is really practical to stack the map cases higher. The tops of low stacks of map cases play an important function in map use that must not be overlooked. Map cases stacked too high can severely compromise physical access to maps for both the public and staff. However, safety is an even more serious factor to consider before making this decision.

The problem of safety is too often ignored. It is particularly important to use special ladders with side rails for accessing map cases stacked three or more high. Pulling out large maps from the drawers is especially awkward, and the concern to avoid damaging the map can easily lead to forgetting one's own personal safety. Safety officers recommend a clear and practiced policy to disallow wearing of shoes with high heels when using ladders.

In California there is the added problem of safety in the event of earthquake. In a quake of 6 or more on the Richter scale, it is almost certain the drawers will open. It is, therefore, important to check to be certain that the connection between the stacked cases is strong. Cases stacked three or more high must also be braced to the wall and/or to the stacks of cases on either side and behind so that individual cases will not topple.

Public Services - An inventory of the public served must not only include the number of patrons served daily and the maximum number of reader stations required at any one time but must also include a survey of how the public uses the collection. Note how heavily the light tables are utilized and how frequently photocopies and copies from microform are required. Consider services requested by patrons that are not currently available. Some patrons desire direct access to maps which must be paged by staff; consider the staffing and other operational benefits of direct access to some or all of the collection.

Significant use of rare maps which require close staff supervision will strongly influence the final design of a map library. Determine the problems that must be addressed in providing a rare map service.

List the problems you have in serving the public effectively. Gather the suggestions received for improving the map library's services. It may also prove useful to solicit suggestions from the clientele. The inventory process provides an excellent opportunity for looking at public services from a fresh point of view.

Staff Operations - In inventorying and generally examining staff operations, it is helpful to separate public service from processing. In practice, these operations may not be separable because of an insufficient number of staff. This particular factor will significantly impact the final layout of the map library, especially if a portion of the collection requires close supervision or heavy paging.

In reviewing the processing functions, study carefully the work flow, from receipt of the material through the various steps until the material is "shelved." Note if any part of this process is awkward or if materials are being handled too many times. Consider also the space adequacy for holding material until it can be processed, for processing material, and for holding material that has been used until staff can "re-shelve" it.

Environment- The general environment of the map library also deserves attention. For example, adequate lighting for reading maps is essential. It is necessary to consider not only the quantity but the quality of light available; does the lighting produce shadows or glare? Heating and ventilating must be examined, identifying drafts, dead air, and exceptionally warm areas. If rare materials are housed in the map library, temperature and humidity control is important for preservation. Rare collections may also pose a security problem; electronic access control systems can provide an effective solution. Pay attention to the acoustical environment; staff become acclimatized to the environment, but patrons may suffer from the din. The need for signs is often disregarded, but in fact they provide a useful adjunct to public service. A particularly critical environmental factor to study if there are plans for stacking map cases higher is the load-bearing capacity of the floor. If this capacity is not known, a structural engineer must be called in at some point before this decision is made.

Goals

Having inventoried the collections and operations of the map library and having identified a variety of problems (many of which, previous to this review, had never been obvious), one is now ready to establish realistic goals. At this point, it is appropriate to digress to explain how the mere lack of space for map cases has led us from the concrete task of inventorying existing conditions to the abstract process of establishing goals. If the primary goal for a library is to provide information to its public, to allow it to grow helter-skelter without a plan is to lose sight of this goal. In the past this unplanned growth could be tolerated to some degree; as evidenced by the new library buildings constructed, especially during the 1960s, the proliferation of branch libraries on many university campuses, and the increased size of the library staff. In the 1980s new construction is expensive and, concomitantly, often a politically unviable solution; and library budgets, if not being cut, are in what is described as a steady state. Therefore, it is essential to consider carefully the goals of the library so that the final solution will not only address the problem of the space shortage for map cases but also the needs of the map library's public and the staff's ability to deliver service.

It is often difficult, especially when working with existing space, to achieve all the desired goals at the same time. There are many reasons for this, ranging from budgetary limitations to new developments in technology. It is wise, therefore, to establish both short-term and long-term goals and plan to accomplish them in phases over a period of time.

Programs and Technology to Improve Service and Save Space

The goals developed are service and operational goals. To aid in the accomplishment of these goals, it is useful to explore a variety of programs and technology with the potential capability of improving service and saving

space. The long-term solutions to space problems may lie in major policy decisions affecting the manner in which public services are delivered and in the adoption of new technologies to support a modified delivery system.

Map librarians are already actively discussing and, in many cases, involved in cooperative acquisition and interlibrary loan programs. They are also sharing information regarding the acquisition of maps in microform and potential programs in shared duplication of maps in microform.

Microfilm

Many are already aware that microfilm, that is roll film and microfiche, is a transition technology, but an important one, especially if the librarian has already faced the library's future space problems. The significant lag between the availability of new technologies and their adoption for accepted use is so great and the continuation of use of older technologies so long in duration that microfilm must not be overlooked as a possible alternative for map acquisition. Add to this the fact that more and more maps are being published in microfilm and that many aspects of this technology are undergoing significant improvements, and it becomes clear that this technology must be explored in some detail.

In contemplating this technology for use, other benefits in addition to that of space saving should be taken into account. Some of these benefits include:

- Reduction in handling of rare maps thereby strengthening the goal of preservation.
- Availability of information in a format which can be directly and easily accessed by the public.
- Improvement, in some cases, of the legibility of the original map.
- Possibility of storing the original map outside the map library. It is estimated that 75%-of-the-time the microfilm edition will fulfill the patron's information requirements. In Northern California the completion of construction of the Northern Regional Library Facility, planned for 1982, will make it possible for cooperating libraries to store original maps under proper environmental conditions in this facility and to recall them for use only when the microfilm can not fulfill the patron's needs.

One must also recognize the limitations and difficulties posed by the use of this technology so that good decisions can be made for its use and so that strategies can be devised for effectively coping with its difficulties. The following are a few examples of limitations and difficulties in the use of this medium for maps.

- The color film used for color-coded maps is not archivally permanent, being subject to fading.
- Color duplication from film to paper is expensive.
- Color film does not have sufficient power of resolution to reproduce some of the smallest print sizes found on maps. This technology is continually improving, but many maps already reproduced on color film exhibit this problem.
- Microfilm lacks standardization in size and magnification. Therefore, care

must be taken in selection of both the microfilm and the equipment for reading it and reproducing it on paper.

--Maps are frequently too large to be microfilmed in one exposure, which creates an additional set of problems:

1. Orientation of the film frames and microimages must be standardized to improve the ease of reading and interpreting maps published in a microformat. This problem of orientation is further compounded by maps lacking compass indicators and standardized notations and symbols.
2. Edge distortion can become a problem when it is necessary to combine more than one exposure.

--Reproduction in a microformat can distort the mathematical relationships which determine the legibility of the final product.

--The availability of maps in microfilm is uneven.

--The cost of microfilming existing map collections is higher than the cost of the space it saves. However, if a number of libraries were to enter such a filming project collectively, this would no longer be true. The cost savings as well as the service benefits would be substantial, further imbued for those in California and other areas with regional library facilities by the availability of a full-sized "original" for direct access when needed.

Video Disc - A technology promising considerable benefits for the storage and retrieval of maps is the video disc. A pilot project begun in 1978 by the Public Archives of Canada (PAC) included maps among the archival materials stored. Optical recording by laser beam converted documents into a video signal which was recorded on a video disc. The video disc information was tied into a floppy disc minicomputer and a small, intelligent terminal through which commands are given to access any frame. An interface was used to link the video disc player, the computer, and the terminal.

Substantial progress is being made in improving the technologies utilized by PAC. Recording of an original map will be greatly simplified with the use of a digital video effects unit called the SqueezeZoom which eliminates the series of complicated steps required by PAC in recording maps.

A new commercially available application of optical disc technology is the Laserfile document storage and retrieval system developed at SRI International for World Development Laboratories in Concord, California, who has licensed Toshiba to manufacture and market the device worldwide as their Model DF-2000. This equipment records documents on optical discs and prints with as much resolution as prints from a conventional photocopier. However, at this time, it can record and print only material 8½" x 11" in size. The Toshiba representative has estimated that it will take five years for the company to develop the equipment necessary to record and print items as large as maps.

A comparison of optical discs with other storage techniques shows that, under current technology, laser-scanned optical discs slightly exceed magnetic disc storage capacity and far exceed computer-compatible tape or floppy discs. For large data storage and retrieval applications, RCA envisions a series of five "juke boxes" containing 100 optical discs each, providing 10¹⁴ bits of information on-line to a computer.

The ultimate video disc system will have a centralized video disc area which can be accessed by computer terminal from any location. Telidon, the videotex or two-way TV technology being developed in Canada, will be utilized to retrieve map information. The Canadian weather bureau is interested because Telidon alone has sufficient resolution to display weather maps at high resolution for internal use and at a lower resolution for users with less expensive terminals. The Canadians are also contemplating the use of a Telidon display terminal in the cockpit of an airplane which could provide pilots with a detailed map of the airport at which they'll soon be landing and save them checking through cumbersome reference books which they are now required to do.

In a recent conversation with a member of the U.S. Defense Mapping Agency, it was revealed that the Agency is building large databases of map-type data, not maps as such, and is working with Xerox to develop a system to play back the digital map data on paper. How map libraries will be able to tie into this technology is a question for the future.

In the meantime, the current advantages of video disc technology for map storage and access are impressive. The goals of the PAC project were

1. to find a cheaper way of storing material,
2. to improve retrieval speed, and,
3. to improve life expectancy.

This pilot project successfully accomplished all three goals. In a report on the project, dated January 1981, Dennis A. Mole, Chief, Video Disc Systems of the Public Archives of Canada, provided a storage cost comparison based on cost per megabyte as follows:

Video disc	.02
Magnetic disc	\$3.00
Magnetic tape cartridge	.40
Microfiche	.07

PAC reproduced 110 maps in 16,000 individual frames. Since each 12 inch disc holds 37,000 images, one disc theoretically could store 220 maps. One disc is 15mm thick. One standard filing cabinet can house 19,000 discs or a potential map capacity of 4,000,000 maps. Replication of the discs is already inexpensive and promises to be more economical in the future with RCA's claim that their video disc will eventually be available at a price as low as \$10 each.

Retrieval speed is less than one second within the same disc. The longest retrieval time for materials stored in the PAC project was four seconds. Recall of the information by random access renders this medium infinitely superior to storage on microfilm.

The optical disc is also superior to microfilm for archival purposes. Photographic materials are subject to degradation and deterioration because of their chemical composition and use tends to damage them. The latest information from Mr. Mole, which he states is "firm", is that the disc produced by 3M has a 100-year life expectancy. Add to this the fact that, since the playback system utilizes a laser beam, there is no physical contact with the video disc. No wear occurs which could degrade the disc or the quality of informa-

tion on it. The 1,000th play of a disc will produce just as sharp and clear a picture as the first playback.

Color quality, which is so important for maps, is high and will continue to improve as the resolution capability of CRTs continues to improve. Color reproductions of maps from video disc will probably continue to be economically out of the reach of map libraries for longer than the five years projected for black and white copies. Xerox already has color copying capability, but whether or not their work with the U.S. Defense Mapping Agency will result in lower costs of color reproduction is an open question. Color prints of maps might also be produced in 8" x 10" size, glossy prints, directly from a CRT by a Dunn camera.

The troublesome issues of most concern to map librarians which have not yet been sufficiently resolved by technology are those of high resolution CRTs and blow-back of a map, or a detail of it, to its original scale or to a mathematically consistent scale. This also continues to be a problem for microfilm. At this time the economics of producing paper copies from video disc pose a problem for map libraries. The Laserfile unit produced by Toshiba is retailing at about \$45,000; the Dunn camera at around \$16,000. I have not researched other associated costs for producing copies.

Conclusion

To improve map information services for map library patrons and to achieve this goal in limited physical space, map librarians must adopt and be facile with a number of technologies. They cannot afford to wait for the ultimate storage and retrieval system for maps to reduce the rate of growth of their map collections and at the same time continue to provide access to the growing store of map information. This approach requires careful planning, careful decision-making, and development of substantial cooperative programs among map libraries to incorporate the various technologies now in use and proposed for future use.

To summarize, the process of planning the map library's physical environment begins with an inventory of the existing library holdings, services, and operations and identification of the problems. The next step is to establish goals for service and for correction of the problem(s) identified. With the endless production of map information and the increasing premium on space, it is not enough to consider merely the physical solutions to the space problem. New technologies, revised operational patterns and new service and interlibrary cooperation policies, all can help to solve the map library's space problem, especially the long-range, future space problem which confronts all libraries.

ATLAS & BOOK REVIEWS

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Fire Insurance Maps in The Library of Congress

United States. Library of Congress. Geography and Map Division. Reference and Bibliography Section. Fire Insurance Maps in the Library of Congress : Plans of North American Cities and Towns Produced by the Sanborn Map Company : a Checklist. Introduction by Walter W. Ristow. Washington : Library of Congress ; for sale by the Superintendent of Documents, U.S. Government Printing Office, 1981. 773 p. \$29.00 Supt. of Docs. no.: LC 5.2:F51. Stock No. 030-004-00018-3. LC 80-607938. ISBN 0-8444-0337-7.

The time when the map curator needed an introduction either to the fire insurance map or to the Sanborn Map Company has long since passed. Numerous articles and essays appearing over the last four decades have documented the importance of this cartographic genre to a variety of researchers ranging from the urban archaeologist to the bottle-hunter, and have given us an increasingly complete picture of the activities of the Sanborn Company itself.

The major difficulty, until relatively recently, was to discover which fireinsurance plans were extant, and to find out where they were located. Prior to the publication of Rees and Hoerber's Catalogue of Sanborn Atlases at California State University, Northridge (WAML, 1973), we had very little specific knowledge of where particular maps were housed. Two subsequent checklists, the Union List of Sanborn Fire Insurance Maps Held by Institutions in the United States and Canada (WAML, 1976-77), and Hayward's Fire Insurance Plans in the National Map Collection (Public Archives of Canada, 1977) substantially filled in this cartobibliographic void. Several state and provincial lists, such as Woodward's Fire Insurance Plans of British Columbia: a Checklist (TRIUL, 1974) contributed even further to our inventory. Collectively, these various works recorded perhaps 400,000 sheets of fire insurance plans, including multiple locations.

But now, with the publication of this long-awaited list from the Library of Congress, we have taken a giant step forward. LC's hefty tome, the product of more than four years' work by many individuals, lists 700,000 maps covering some 12,000 communities or locations in the United States, Canada, Mexico and Cuba. The maps date from 1867 to 1978.

The major portion of the checklist covers the United States and is arranged by state, and then by community name. This is followed by a section of "Whiskey Warehouse Specials" for a number of eastern states. Finally, the work lists five plans covering communities in British Columbia (apparently the only Canadian province mapped by Sanborn), and ten in Mexico. There is also an entry for a 1920 set of plans of sugar warehouses in Cuba. Information provided under each entry includes edition dates, number of sheets, and contents and other explanatory notes when they are required. The size of sheets is given if it varies from the standard 65 x 55 cm. An "Index to Cities and Towns" appears in the back of the volume, as does a county index, referring by entry number to all maps covering communities within a particular county (or borough, census division or parish).

The availability of photocopies from the Library of Congress is discussed in the preface, which also contains a list of institutions (one per state) which received duplicate Sanborns of their state from LC. These institutions are very likely to have most of the uncorrected maps listed in this LC bibliography, and it would be well worth checking with them if their holdings are not included in the WAML Union List.

Reproductions of map sheets, legends, and a portrait of D.A. Sanborn are among the volume's 32 illustrations, most in black and white. Walter Ristow's excellent introduction provides an interesting and informative account of fire insurance mapping and of the Sanborn Company itself.

There is little to fault in this book. One wonders, however, if users might have been better served by the inclusion of cross references within the body of the work rather than in a separate index. On the other hand, the city/town index should serve fairly well as an historical gazetteer for some relatively obscure U.S. communities. Some users may overlook relevant material because of a lack of consistent cross-referencing within the index itself. While it does include many "see" and "see also" references, none are to be found in several places where they would be helpful. For example, "Lankershim, Calif." (misspelled "Landershim") is the earlier name of "North Hollywood." Maps are listed in the checklist under both names, but these are not connected by "see also" references in the index. The same holds true for "Piedras Negras" and "Ciudad Porfirio Diaz." There are no mutual "see also" references for "San Marino, Calif." which is represented by a separately published map and by its later inclusion in a volume of "Pasadena, Calif." In addition, communities which have been absorbed by a larger city are not always cross-referenced, for example, "Ocean View, Calif." which is now a part of "San Francisco." "Ocean View" is also not to be found in the county index. If this list is used in conjunction with the WAML bibliographies, this problem should be relatively minimal, since both the LC and WAML works contain unique cross references. Furthermore, most serious researchers will no doubt look under alternate possibilities, and would in most instances find the county index helpful. Given the otherwise careful editing and overall high quality of the compilation, the referencing problem is a fairly minor one.

The compilers of this milestone in cartobibliography cannot be praised too highly for their achievement. This important reference book should be in every map library.

-- Philip Hoehn
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The New Penguin World Atlas

Hall, Peter, ed. The New Penguin World Atlas. Harmondsworth, Eng.; Penguin Books, 1979. 96 p. \$9.95. ISBN 0-14-051096-6.

This is a new edition of the Penguin World Atlas, published in 1974. The revised version, like the original one, was produced in cooperation with the Cartographic Department of Oxford University Press; the editor is Professor of Geography at the University of Reading. Most of the maps are devoted to topographic and political boundary details, but a few show such physical features as mean annual rainfall and mineral concentrations.

In general the cartographic work is of a high quality, but a few omissions and idiosyncrasies are worth noting. The British origins of the atlas are made obvious by the relatively large scales chosen for the various sections of the United Kingdom as compared to the rest of the world. Also, special maps of population distribution and energy source locations are provided for the U.K. only.

There is no key to the urban symbols used throughout the volume, and the only metropolitan areas shown in large-scale insets are Tokyo-Yokohama and Kobe-Osaka-Nagoya. The polar regions are not exhibited completely; the Arctic Ocean and Antarctica appear only as fringes on maps of lower latitude regions. Finally, American users may be disappointed to discover that Hawaii appears only near the fold of a Pacific Ocean map with a scale of 1:63-million.

In general, despite the criticisms voiced above, this is a serviceable and inexpensive atlas which can be recommended to the general reader.

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Handbook of Geographical Nicknames

Sharp, Harold S. Handbook of Geographical Nicknames. Metuchen, N.J.: Scarecrow Press, 1980. 161 p. \$10.00 LC: 79-26860. ISBN: 0-8108-1280-0.

The Handbook of Geographical Nicknames supplies a previously unavailable resource for easily finding nicknames of places and geographic features the world over. Although the word "nicknames" used in the title implies a degree of brevity and graphicness, the work also includes longer sobriquets and appellations such as "The Town of the Ford of the Hurdles" and "The Sixteenth Century Emporium of South American Trade."

The volume is quite slim (153 pages) for such an endeavor, as compared to the 429 pages comprising Kane and Alexander's Nicknames and Sobriquets of U.S. Cities, States and Counties (Metuchen, N.J.: Scarecrow Press, 1979) which has a more limited scope. The type-face used makes the work very legible with the proper names in bold print and the nicknames or phrases in small print. All entries appear in a single alphabet with a brief notation on location following the main entry. The total or even an estimate of the number of distinct entries is not disclosed; however, it is probably fewer than one might expect because cross references are made from all significant words in the nickname

to the main entry. The most critical shortcoming in the arrangement of the work is the lack of a geographical approach to the entries. A listing of nicknames by country would have greatly added to the usefulness of the book.

A sampling of the first 75 pages reveals that the majority of entries are from Europe followed by the United States. Noticeably lacking are Latin American nicknames such as Montevideo, the City of Roses; Valpariso, City by the Sea; Buenos Aires, the Big Apple South; and Santiago, City of the Southern Sun. Other significant omissions include Perth, the City of Lights; Manila, the Pearl of the Orient; and Stockholm, the Venice of the North. Nicknames of American cities, states and counties are supposedly not included; however, listings for Hawaii; Kauai; San Clemente; California and the names of well-known sections of cities such as Harlem can be found.

Some of the nicknames employed are so commonly used that they are not generally thought of as nicknames. For example, the Yellow River is given as a nickname for the Huang Ho and the Great Divide is given as a nickname for the Continental Divide. Furthermore, the description of the Continental Divide leads one to believe that it only occurs in the Rocky Mountains of North America.

In the foreword it is pointed out that "nicknames have come to be applied to geographical areas for a number of reasons," however, the sources from which the nicknames were taken are not mentioned. Also a wider selection of resource libraries would certainly have added many more nicknames to the work.

In summary, the Handbook is reasonably priced (\$10) and well-bound, and though it could be improved and expanded considerably, it should prove to be a useful work for general collections in public and academic libraries.

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Concepts in the History of Cartography

Blakemore, M. J. and Harley, J. B. Concepts in the History of Cartography: A Review and Perspective. Edited by Edward H. Dahl. Cartographica, Volume 17, No. 4, Winter, 1980. Monograph 26. Toronto: University of Toronto Press, 1980. 120 p. \$6.50 ISSN 0317-7173. ISBN 0-919870-26.

The history of cartography as a separate field of research is over a century old, with many antecedents. During this time a considerable body of scholarship has been created. Even so, Blakemore and Harley argue that it lacks direction, a common terminology and methodological rigor. This is because not enough attention has been paid to these things and because contributions to the field have been from a great variety of disciplines. This essay should advance the level of debate and it should be read by anyone wanting an overview of current scholarly trends. One has the feeling, however, that it does not really go far enough.

This . . . "essay offers a selective historiographical treatment with emphasis on Anglo-American writings from the last three decades (p. 1)."

Fair enough, but in this very international field, wouldn't we gain a great deal by examining the methodologies in use in a broader context? A second difficulty is that while they review weaknesses and limitations in current methodology, one could wish that they would offer more in the way of solutions and suggestions for future research direction. Not an easy task. Perhaps the greatest value of this book is to remind us once again that an historic map can provide a great deal of information if it is examined in many ways. This will bear fruit as we learn more about contemporary visual conventions and symbols so that we can better understand what a map "said", as we understand printing histories and the evolution of images better, and as we use concepts such as "accuracy" with more sophistication when applied to maps.

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World Directory of Dealers in Antiquarian Maps

Ritzlin, George. ed. World Directory of Dealers in Antiquarian Maps.
Revised edition. Chicago: Chicago Map Society (60 W. Walton St.,
Chicago, IL 60610), 1980. 38 p. \$5.00

What map librarian is not frequently called upon to supply the names and addresses of antiquarian mapsellers? This attractive and easy-to-use work readily provides that information and more.

It is a much enlarged version of a directory first published in 1977. This second edition lists over 500 dealers in 38 countries--the first listed some 260 mapsellers in 23 countries. Newly added, for example, are shops in Argentina, Hong Kong, Iceland and Mexico. Incidentally, London has the largest number of dealers. At 54 it is far ahead of its nearest competitor, Paris, which has 23. Amsterdam and New York share third place with 16 each.

The directory is arranged geographically by country, then city. For some entries only name and address is provided, but the overwhelming majority also include phone numbers. For about half the listings, however, such additional information as hours, catalogs (with their frequency and terms of availability) and categories of materials normally kept in stock, is also included.

This is an indispensable tool for every map library.

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The Travel Book: Guide to the Travel Guides

Heise, Jon O. The Travel Book: Guide to the Travel Guides. With Dennis O'Reilly. New York: Bowker, 1981. (Consumer Information Series).
319 p. \$26.95. LC: 80-39598. ISBN: 0-8352-1337-4.

This book first appeared in 1973 as Suit Your Spirit and in 1978 it became Travel Guidebooks in Review. Each change in title has marked an improvement in

coverage, format, and writing. Heise is Director of the International Center at the University of Michigan so it is no surprise that this book is particularly good in its coverage of guidebooks aimed at the low-budget student (and faculty) traveler.

The arrangement is first geographical - world, continents, nations, states, and within each grouping the books are listed under such headings as comprehensive guidebooks, accommodations and restaurant guides, camping, children, etc. The reviews themselves run about a half page each, and they are both descriptive and critical. The critical comments are a bit on the kind side, but they show basic good judgment. According to the introduction, only books supplied by their publishers are included here. Thus these are not necessarily the best guidebooks available, and there are some serious omissions and gaps. The present-day Baedekers are not included and not a single guidebook on India is reviewed. In all about 600 guidebooks are covered, but this includes titles in series which have a single review. About half the books concern the United States. Most of the reviews are for books published in the last three or four years. There is a subject-title index and a directory of publishers in the back.

Map librarians will be disappointed that so little is said of the maps to be found (or not to be found as the case may be) in the guidebooks covered. Nevertheless, because we are so often asked for travel advice, this book will have some utility in a map library. There is nothing comparable on the market, and any attempt to impose some critical bibliographic control over the vast outpouring of guidebooks should be looked upon favorably.

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Place-Name Changes Since 1900: A World Gazetteer

Room, Adrian. Place-Name Changes Since 1900: A World Gazetteer.
Metuchen, N.J.: Scarecrow Press, 1979. 202 p. \$11.00. LC: 79-4300
ISBN: 0-8108-1210-X.

As Room points out in his introduction to this volume, the last seventy-five years have been a time of unprecedented change in the political and cultural geography of the world. During this period, two major wars and numerous regional conflicts have been fought; nations have emerged from former colonies and empires; and groups holding special religious, linguistic, and/or political beliefs have won control of land and governments. These changes and others have resulted in the renaming of thousands of places, from cities and villages to counties and countries.

This gazetteer has been compiled as an index to the official name changes which have taken place worldwide since 1900. It is not intended to be comprehensive but comprises major name changes, rather than spelling modifications, alternative names, or administrative reorganizations. It is arranged alphabetically. Each entry includes the current and previous name, its feature designation and location, and the year of the change, if known. Former names are cross-referenced.

DUPLICATE MAPS

DUPLICATE MAPS from the University of California, Davis

Map	Scale (ca.)	date
United States, 1:250,000 superseded (must take all)		
Washington (State), 1:24,000,000 superseded (must take all)		
Arizona, 1:24,000, superseded. (must take all)		
California, topographic quads, scales vary. to 1940. (must take all)		
Canada land capability, including forestry, agriculture, wildlife and recreation. (must take all)		
Algeria (153 sheets)	1:50,000	1941-42
Israel (vegetation?)	1:250,000	1970
Tofino-Ulcluelet lowland, Vancouver, B.C. soils.	1:50,000	1969
Denver bikeways	1:65,000	1974
Montana existing land use: Park Co. 3 sheets	1:130,000	1977
Salinas Valley, CA	1:31,680	1910
Korea road map, south sheet	1:700,000	1970
Arizona satellite image	1:500,000	1973
Wisconsin base map	1:500,000	1968
Wisconsin	1:500,000	1968
North Carolina	1:500,000	1972
Illinois base map	1:500,000	1972
Conterminous U.S.	1:5,000,000	1974
Arizona relief	1:500,000	1959
Arizona base map	1:500,000	1974
Missouri base map	1:500,000	1973
Ohio base map	1:500,000	1971
Great Smoky Mountains National Park, topographic 2 sh.	1:62,500	1931
West Virginia	1:500,000	1966
Nisqually Glacier, Mt. Ranier Nt'l. Park.	1:12,000	1971
Massachusetts, Rhode Island and Connecticut	1:500,000	1971
Massachusetts, Rhode Island and Connecticut, base	1:500,000	1971.
New Jersey, base	1:500,000	1974
New Hampshire and Vermont, relief	1:500,000	1951
New Hampshire and Vermont, base	1:500,000	1972
Massachusetts, Rhode Island and Connecticut, base	1:1,000,000	1971
World aeronautical chart, (2801) Great Nicobar	1:1,000,000	1968
Portion of the Sierra Nevada adjacent to the Kings River	1:250,000	1893
Portion of the Sierra Nevada adjacent to Yosemite & Hetch Hetchy Valley	1:250,000	1893
Mississippi River, 1811. (facsimile)		
Glacier Nt'l. Park, topographic	1:125,000	1942,51
Mesa Verde Nt'l. Park, topographic	1:31,250	1915,48
India road map (2 sh)	1:2,500,000	1969
California oceanographic data	vary	1976
Bulgaria road map	1:500,000	1962
Ukraine pictorial	---	196-?
Yolo Co., Calif. townships		194-?
Stanislaus Co. Calif & Central Valley townships		1914
Coastal area of San Mateo Co., Calif. (part of a larger map)		192-?
California desert region topographic (2 sh)	1:120,000	1929
Amador Co., Calif.	1:130,000	1914
Canada petroleum highlights		1979
Important farmlands: 1:100,000		
Contra Costa Co., Calif.		1979
San Benito Co., Calif.		1979
Alameda Co., Calif.		1979
Santa Clara Co., Calif.		1979
Sonoma Co., Calif		1978
Ecoregions of the Northern Yukon	1:1,000,000	1981
Ecodistricts of the Northern Yukon	1:500,000	1981
Columbia Icefield	1:50,000	1981
Countries of the world: year of latest population census	1:95,000	1980
World fertility pattern, 1978		1980
World mortality pattern, 1978		1980
World population growth pattern, 1978.	1:95,000,000	1980
Pennsylvania travel guide	1:600,000	1980
Guide map: Cameron Highlands	---	197-?
Panduan Jalan: Kuala Lumpur (book)		1974
Road map of Kuantan	1:25,000	197-?
Bangkok & Thailand	---	197-?
Imago Mundi, supplement no. V (book)		
European Community	1:2,000,000	1979
European Community	1:4,000,000	1979
Soil classification of California (3 sheets)	1:253,440	1936
Wilderness review: Michigan	1:1,000,000	1980
Index to hydrologic & flood prone maps for Kentucky	1:1,000,000	1979
Status of topographic mapping for Kentucky	1:1,000,000	1979
Index to geologic maps for Kentucky	1:1,000,000	1980
Sailing directions [for the] Mediterranean		1975
Kananaskis Country, Alberta	1:150,000	1981
Ecoregions of the U.S. (text only)		
Der Islam in Vergangenheit und Gegenwart	---	1979
Edmonton transit guide	---	1981
Inuvik, Dist. of MacKenzie, Northwest Terr.	1:50,000	1967
Arm un Reich in der EG	---	1979

Duplicate maps of the University of California, Davis (continued)

Map	Scale (ca.)	Date	Map	Scale (ca.)	Date
Biotic communities of the Southwest	1:1,000,000	1980	California topographic quads & geologic map index	---	1944
Far East	1:7,500,000	1952	Western Amador & Calaveras Counties, Calif.	1:130,000	1940
Northwestern U.S.	1:2,851,200	1960	Great Smoky Mountain National Park	1:150,000	1980?
Southeast Asia	1:6,000,000	1955	Solano County, Calif. aerial photo (2 sheets)	1:20,000	1937
Asia	1:13,812,480	1971	Imperial County, Calif. Salton Sea geothermal (G1-1)	1:20,000	1971
Great Britain, 1325-50 (facsimile)			World aeronautical chart: Beaton River (2139)	1:1,000,000	1975?
Universe, ca. 1660 (facsimile)			San Joaquin County, Calif.	---	1970?
Britain, ca. 1662 (facsimile)			San Joaquin County, Calif.	1:65,000	1952.
The Northwest	1:2,000,000	1973	Mariposa County, Calif.	1:150,000	1907
China, ca. 1620 (facsimile)			California-Nevada road map		1969
United States, ca. 1783 (facsimile)			California-Nevada road map		1936
North America, ca. 1690 (facsimile)			California-Nevada road map		1935
Lands of the Bible today			California-Nevada road map		1934
	1:2,851,200	1967	Arizona road map		1965
Afrika Kartenwerk, W-12 (West Africa economic geography)	1:1,000,000	1976	Arizona-New Mexico road map		1969
Nicaragua cities & towns s var		1935	Oregon road map		1967
Guatemala (11 sheets)	1:250,000	1961-70	Oregon road map		1969
Oregon, base	1:500,000		Oregon road map		1968
Turkey (5 sheets)	1:800,000	1934-36	Washington (State) road map		1969
New Mexico Territory	1:1,850,000	1900	Washington (State) road map		1966
Cuba (sheets 2,4,5)		ca. 1890	Utah road map	1970	
California County road system:		1979	Ukiah District, Calif. planning units (multi sheet set)	---	1970-
Sacramento sheets 1C5, 1C6, 1 of 32			Santa Clara Co., Calif. school districts		1977
Riverside sheet 14V45			Extent of aerial photography, U.S.	1:10,000,000	1938
Orange sheet 14V55			Douglas County, Wash.	1:130,000	1940
New York Azimuthal equidistant projection	1:50,000,000	1970	U.S. Congressional Districts, 91st Congress	1:5,000,000	1968
Brazil divisão municipal		1967	U.S. Congressional Districts, 92nd Congress	1:5,000,000	1970
Surface management: Clifton, AZ	1:100,000	1973	Glenn & Colusa Counties, Calif.	1:120,000	1908
Surface management: Silverbells Mts., AZ	1:100,000	1977	Colusa County, Calif.	1:63,360	1920
Surface management: Douglas, AZ	1:100,000	1977	South America	1:1,000,000	Rio Sao Francisco, Brazil 1934
Surface management: Caliente, NV	1:100,000	1978	Status of aerial photography, U.S.	1:5,000,000	1954
Surface minerals management: Mt. Saint Helens, Wash.	1:100,000	1978	World	1:500,000	Salzburg 1964
Surface minerals management: Currie, NV	1:100,000	1979	Operational navigation chart (ONC F-11)	1:1,000,000	1975
Land use land cover:			Northern Hemisphere	---	1965
MacKenzie River	1:250,000	1974-76	World aeronautical chart: Great Salt Lake	1:1,000,000	1945
Stockton, CA	1:250,000	1976	World aeronautical chart: Bitterroot Range	1:1,000,000	1945
San Diego, CA	1:250,000	1972-75	Sacramento, Calif. road map		1963
Cape Flattery	1:250,000	1973	California Senatorial, Assembly & Misc. political districts (multi sheet)		1960-70
Copalis Beach, WA	1:250,000	1973			
Pendleton, OR	1:250,000	1972-76			
Mendota, CA	1:250,000	1974-76			
North Santian River, OR "		1974-75			
Crater Lake, OR	1:250,000	1974			
Grants Pass, OR	1:250,000	1974			
Coos Bay, OR	1:250,000	1974			
Oregon City, OR	1:250,000	1974-75			
University of California, (Berkeley) campus	---	1914			
Texas geology (post card)		1967			
Gowganda & Porcupine, Dist. of Nipissing (Canada)	1:125,000	1911			
Tiawan population	1:500,000	1965			

MicroCartography

Larry Cruse

Sixth in a Series.

by

Map Section C-075p
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PRODUCTS

Depository Library Council

The Depository Library Council acts as an advisory committee to the U.S. Government Printing Office. The DLC represents almost 1,400 libraries involved in GPO's free, automatic distribution program. At their late-September meeting, 1980 population census publications generated much heat, and some light, for map microforms.

WAML Member Sharon Anderson (Head, Documents, Maps, Microforms Dept., UC-San Diego), successfully lobbied for the Census micro mapping to be done on full-fiche at standard reductions for each urban set. Consequently, the maps should be easy to file, find, replicate, read, project, and will certainly be as geometrically accurate as is practical to accomplish. Presumably, like all other GPO Depository fiche, the maps will be done in the negative (if you want them to stay that way, diazo duplicate them; if you want positives, duplicate on silver, or vesicular film). If you want a set in your map collection, you should be able to acquire it easily for 5¢ to 10¢ per fiche on a fiche-to-fiche duplicator.

The only issue left undecided at the meeting was how to treat the colored census tract boundaries on the maps. In the 1970 reports, boundaries were done in dark green ink. When microfilmed, this color becomes opaque and obscures underlying information. So a "fix" is being studied. Alternatives might be to "screen the green" so it shows as a fine dot pattern, or use a pastel which will show up on diazo but not obscure other information, or superimpose a special black-and-white pattern where boundary information is needed. Since the Census Bureau is probably more experienced in the field of computer output microfilm mapping (COMMies as we call them) a solution should be accomplished easily.

One useful quality about these maps of which I was ignorant until last week is that they are the only regularly produced street map series which not only shows all street names but geographic coordinates, too.

Background on the regular Census Bureau mapping program (in contrast to these special Depository developments) is provided by three recent publications:

1. Census Geography (Data Access Description (DAD) No. 33, revised May 1979 SuDocs # C240/7:33/2). It includes the following table:

Figure 6. Census Outline Maps

MAP SERIES	MAP SCALE	NUMBER OF MAP SHEETS	SIZE OF MAP SHEETS	AVAILABILITY	
				IN REPORTS	SEPARATE
METROPOLITAN MAP SERIES —cover urbanized areas of SMSA's and contain all census boundaries down to the block level	1" = 2,000	Varies according to size of urbanized areas	18" X 24"	HC(3) ¹	From \$1.50 each sheet ¹
COUNTY MAPS —contain boundaries for MCD-CCD's, incorporated places, tracts, and enumeration districts	Generally, 1" = 2 miles	Varies from 1 to as many as 64 per county	Generally, 18" X 24"	—	From \$1.50 each sheet ¹
PLACE MAPS —for incorporated and unincorporated places; contain tract and enumeration district boundaries	Varies according to size of place; range from 1" = 400' to 1" = 1,500'	Generally, 1 map sheet per place	Varies according to size of place	HC(3) ^{1,2}	From \$2.25 each sheet ¹
COUNTY SUBDIVISION MAPS —include township and city boundaries	Generally, 1" = 12 miles	Generally, 1 map sheet per state	3' X 4'	PC(1)-A	\$1.00 each sheet ²
TRACT OUTLINE MAPS —show tract boundaries and incorporated limits for places of 25,000 or more population	Varies according to size of SMSA and complexity of tracted area; range from 1" = ½ mile to 1" = 10 miles	Generally, 2 map sheets per SMSA	Generally, 22" X 24"	PHC(1) ¹	Prices vary see Appendix C ¹
URBANIZED AREA MAPS —show the extent of urbanized areas by grey shading	Generally 1" = 4 miles	Generally, 1 map sheet per UA	17" X 22"	PC(1)-A HC(1)-A	—
UNITED STATES MAP OF COUNTIES —contains boundaries for counties and equivalents	115,000,000	1 map sheet	30" X 40"	—	\$1.00 each sheet ²
CENTRAL BUSINESS DISTRICT MAPS —show census tracts comprising the CBD	Varies according to the size of the CBD	Single page	8½ X 11"	RC72-C	—
MAJOR RETAIL CENTER MAPS —show general location of MRCs and CBDs	Varies according to the size of the SMSA	Single page	8½ X 11"	RC72-C	—

¹ Available from: Customer Services Branch, Data User Services Division, Bureau of the Census, Washington, D.C. 20233 (301) 763-2400.

² Available from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or any U.S. Department of Commerce Field Office.

³ Reports for some areas may be out of stock at GPO.

⁴ Only for places participating in the contract block statistics program.

2. 1980 Census Update, issue No. 16, October 1980 (SuDocs C3.238/3:16, (p.8-10)), "Mapping Program for the 1980 Decennial Census". It reviews the maps described in the preceding table and announces the following changes for 1980: increased map scale, standardized symbolization, increased descriptors, and the use of metric, feet and mile scales.
3. Finally, there is the Census Bureau's Monthly Product Announcement for April 1981 (SuDocs C3.163/7:981/4, (p. 13)) containing the following table:

MAPS

"1980 census maps showing block, tract, enumeration district, and place boundaries now are available. They do not show urbanized area boundaries but they do indicate some of the census designated places which may be deleted from the final 1980 census maps.

Currently these maps are only being sold on a package basis for individual States, standard metropolitan statistical areas (SMSA's), and counties. Each package for an individual area may include any one or all of the following types of maps: 1) county, 2) place and vicinity, and 4) metropolitan/vicinity map series.

Listed below is the cost of diazo paper prints of the maps for each State and the District of Columbia. A \$30 handling charge is to be added to each order." {WAML States only are shown here.}

Alaska - \$902.10	Hawaii - \$318.06	New Mexico - \$587.76
Arizona - \$1,153.20	Idaho - \$656.58	Oregon - \$1,021.14
California - \$3,930.18	Montana - \$812.82	Utah - \$719.82
Colorado - \$1,220.16	Nevada - \$186.00	Washington - \$1,089.96
		Wyoming - \$368.28

"For more information about specific maps, or for prices on SMSA or county maps in the series noted above, contact Customer Services (maps), at Data User Services Division, Bureau of the Census, Washington, D.C. 20233, or telephone 301/449-1600."

As everyone no doubt already knows, there was not enough money to publish the 1980 population census. As a stopgap, publication will be done on microfiche and sent to depository libraries by GPO. This includes about 15,000 maps accompanying the census "block statistics," a decennial street map extravaganza showing every major populated area in the U.S. (another set of maps continues this to show every populated place above 5,000 population). This will free enough money to publish the actual block statistics.

Some idea of the cost savings involved in this shift from paper to microfiche can be gleaned from the prices quoted above (see paragraph numbered 3). A complete national set of blue-line census maps on paper is \$60,351.66 (the cost of all WAML States is \$12,966.06). If the block statistics maps represent half of this total, they can be sent out for about \$750 or less on micro, at a savings of roughly \$29,000 per set. Blue-lines can then be generated locally from the micros for 2¢ to about 20¢ per square foot on library reader printers.

While a published version of these maps is still promised, to be included in the relevant reports when they are released, they will no doubt remain in the dollar-a-sheet price range, if not more. The acquisition of full U.S. coverage of 60,000 census maps would require about 16 cases and 272 square feet, or, in dollars, about \$60,000 for the maps, \$24,000 for the cases, and \$34,000 for a place to put them (using a formula of 250 maps per drawer in a 15-drawer Hamilton map case which costs at least \$1,500 and occupies more than 17 square feet at approx. \$125. per square foot). In micro, it works out to \$1,500 for the maps, \$2,000 for a cabinet, and \$377 for the floor space. That's \$118,000 versus ca.\$4,000, leaving \$114,000 to pay for a microfiche reader and/or reader printer and perhaps a few spare bulbs.

A more practical way of looking at it is to realize that for an outlay of \$75 per year for the next ten years, you can keep up with complete street mapping of all significant population centers in the U.S. Double that figure and you can have a street map of every place of 5,000 or more population in the U.S., updated every ten years. With them, you can make legible fiche-to-fiche duplicates (or get them from others if your's are lost, misfiled, etc.). With the fiche you may blow-back portions of the map to almost any size you want (back to full-size would be about \$12 for the largest maps, a figure to be doubled if you want Mylar -- this is competitive with commercially available Mylar -- it can be done on a demand basis with no anticipation of user needs anymore-- or make your own copies on Xerox's new model 740 (about \$5,000 with its coin box) which will make an 8½" x 11" Mylar or paper copy.

Geographic Names Information System

NCIC is producing its state gazetteers on COM fiche, with a minimum of two fiche needed per state. Thirteen have already been released (Colorado, Connecticut, Delaware, District of Columbia, Indiana, Iowa, Kansas, Maryland, Nebraska, New Jersey, North Dakota, Washington, Wyoming). Sixteen more are in the works and the remainder will be done along with the printed versions. The current crop of 29 states is available for \$43.50. Orders can be placed through NCIC, 507 National Center, Reston, VA 22092. Be sure to specify micro edition.

Library of Congress

LC's photoduplication service planned at one time to make up a list of all the atlases they microfilmed for the G&M Division. Even though the list was never compiled and probably never will be, it might interest you to know that G&M has had over 500 of their "vault atlases" microfilmed as a preservation measure, over 200 of them in the last year alone. These can be duplicated by the Photoduplication Service for \$11.00 (\$10 minimum order and 40¢ for a spool). Their regular rate is 15¢ per foot of 35mm film -- at about six images per foot -- or 66 images for the first \$11, and .15¢ per six images thereafter. For a listing of the atlases, consult LC's National Register of Microform Masters -- better yet, don't; wait until we can find someone willing to draw up a separate list. The National Register (author entry only) is a bit too daunting, but you might want to consult it in special cases.

Aerial Photography Micro(graphic) Index

The USGS (NCIC-EROS Data Center) graphic index to aerial photography consists of an expandable series of microfiche containing microphotographs* of actual air photos. The set is arranged in a nested fashion based on the 52 4° x 6° International Map of the World quadrangles touching on the contiguous U.S. These are then subdivided to as many as 12 1° x 2° subsets based on the 1:250,000 mapping. The final subunits are the 15' and 7.5' quadrangle-based "blocks". (* *Nomenclature: a microphotograph is something large photographed small; a photomicrograph is something small photographed large.*)

Microfiche headers are color coded to telegraph film types: red for infrared; white (actually clear) for black-and-white; and blue for color. They also carry filing information to relate date, place, agency and gross scale ("S", "M", "L").

Each microfiche then, literally, displays the actual photographs for its respective area and time and/or it contains the proper map or flightline index, and a tabular listing describing photo characteristics. Along with the set is a pamphlet (3rd edition, January 1981) that describes the set contents and gives detailed instructions on alternative means for filing, including a point-by-point evaluation of relative trade-offs inherent in the alternatives suggested: for instance, tossing the entire set in a microfiche cabinet is cheapest, but hardest to use; carousel files are most expensive, and binders with fiche carrier panels are a good compromise.

With only the utmost difficulty have I been able to find that salve of a critic's pride, a possible improvement. Niggling and minor, its advantage is increased filing coherence. At the outset I mentioned that the set was IMW based, at least that's the shipping sequence. Unfortunately, the sets and subsets use quadrangle name identifiers rather than the immutable IMW alphanumerics. Because of this choice, while each set is packaged in nested, IMW fashion according to the alphanumerics and 1:250,000 scale subsets, it looks to be in an unalphabetical mess and the instructions suggest that you arrange it. A sheet name used for the 4° x 6° IMW quadrangle, such as "Los Angeles", is also repeated for one of the 12 1° x 2° areas, which is confusing: there is no way to tell from the header which is which. To overcome this handicap, we have labeled our fiche holders according to IMW designators and filed subsets in IMW order. Thus, the 4° x 6° fiche for Los Angeles is NI-11; the 1° x 2° fiche for Los Angeles is NI-11-4. Since this amendment is also consistent with the packing order of the fiche themselves, it is an easy matter to find the proper fiche. We have also added small printed index sheets to each of the fiche panels as visual reinforcement of the area covered by the fiche on that panel.

With those two improvements, the system is as foolproof as possible. Unfortunately, there is no way to correct the headers on the fiche, short of adding IMW designators to each header by hand! This process is irreversible, so be careful! (* see Joseph J. Ulliman and Oliver J. Grah, *Marking Pens for Aerial Photographs and Transparency Material, Photogrammetric Engineering and Remote Sensing* 47(4):501-504, April, 1981; or try any micro supply house for fiche marking pens--they're available in colors.)

When weighed against the essential merits of the set, the indexing problem pales to insignificance. How did we ever get along without this index? If no one else does it, map librarians should band together and award the National Cartographic Information Center and EROS Data Center a wholly new prize for this brilliantly conceived and almost perfectly executed visual index. Coincidental with the arrival of our "Los Angeles" (NI-11) microfiche, I was cataloging as best I could some air photos using the Aerial Photography Summary Record System (APSRS) in microform, the strictly tabular type of listing we have relied on in the past. After what seemed like hours of unfamiliar fiddling, I found the proper listing; actual use time was probably about thirty minutes. The same exercise using this new micro(graphic) index was nominal in the literal sense; time was only spent getting the fiche right-reading on our viewer. Then, presto and voilà, I was viewing absolutely the same photograph I had in hand, could tell the areal extent of the set if was a part of, and further, could count, if need be, the number of photos in the mission. People have constructed shrines to less remarkable accomplishments than this one by NCIC.

And the set is almost dirt cheap. We paid \$55 for complete, modern coverage of the very busy "Los Angeles" quadrangle which covers all of southern California as well as adjacent portions of Arizona and Nevada on ca.300 microfiche, at a little more than 18¢ per fiche. Whatever recognition is contra to Senator Proxmire's "Golden Fleece Award", this index deserves it on cost savings alone: for its utility; for its quality (many users will be able to get by with the fiche alone, so good is the resolution); for reducing frustration and errors all along the line (ordering mistakes will be as rare as hen's teeth); and for providing an index that will always be available--so even if it's five years before you need these, you can still count on getting them.

Even if you do not want the micro now, the accompanying pamphlet, Aerial Photography Micro(graphic) Index: Organization and Use, should be acquired without delay. It is informative in its own right.

One follow-on/intermediate product we could sure use is the actual air photos individually produced on microfiche, either half of each photo per fiche at near full-size, or just the entire photo at half size on a fiche. Of course, a similar index and collection would be welcome for satellite photography, too. At less than 20¢ each, or even at \$1 each if necessary, such remote sensing would be within reach for all libraries, and the public at large. It could be produced by subscription. It would fill a large gap which now exists. Perhaps the successful reception accorded the micro(graphic) index can serve as a necessary first step; although, whether or not it is ever supplemented, it will always stand as a microcartographic *tour de force*.

The Aerial Photography Micro(graphic) Index is available from the EROS Data Center, Sioux Falls, South Dakota 57198.

EQUIPMENT

In last June's installment of this column, I discussed the Bell & Howell and Northwest Microfilm 35mm roll film readers. Along with a clutch of other machines, the same readers were reviewed simultaneously by (the marginally more authoritative) Library Technology Reports (Vol. 17, No. 4 June/July 1981). Reassuringly, they came to similar conclusions, based on evaluations and manufacturer's responses, which you should not miss reading. While the evaluations are saving you from grief, the manufacturer's rationalizations and backbiting lend credence to the expression "let the buyer beware".

One aspect of particular concern is the typical American assumption that engineers will design-in enough safety to protect us from ourselves. Not only do the designers of foolproof equipment underestimate the ingenuity of fools, but, as LTR relates in one example, the "new and improved" Bell & Howell Mark II reader was less satisfactory than its predecessor in some ways (e.g., it had a potentially lethal design flaw (since corrected, the manufacturer claims, but not completely eliminated, as it could have been)). Nor does Northwest Microfilms get off scot free; seems they placed the film advance hand crank in such a way that user's knuckles would inevitably get bruised (also retro-corrected, the manufacturer claims).

On the other hand, in the same LTR issue the LMM "Superior" A-B microfilm reader is enthusiastically reindorsed. While the indorsement is deserved, for the most part--we have a number of these roll-film readers and they are great, rarely causing any mechanical problems. However, they were designed with an exposed mirror placed above the user's forehead. Resting on pivots, it can be moved manually both to change magnification and to tilt the image. We had one incident where one of these mirrors fell out of its cradle and broke right in front of the patron. Even though the manufacturer sent out a retro-fix for the mirror holder in response to our description of the accident, the near-disaster led us to replace all of the glass first-surface mirrors with acrylic plastic substitutes.* The consequent reduction in optical clarity (10%?), which was not apparent in our casual tests, was more than outweighed by our sense of relief. A further irony in this was that last week a bolt worked loose from the mirror mount (made of wood because of the former glass mirror?), proving that, even with the manufacturer's retro-fix, we still might have had a patron dangerously exposed to a shattered mirror--with the acrylic, neither the mirror nor the patron is in imminent danger. We just glued the bolt back in and forgot about it. Unfortunately, LTR has yet to anticipate this problem in their tests. As for what will become of the first-surface glass mirrors, keep reading.

(First surface mirrors have their silvered coating on the face of the glass, unlike mirrors used in the home where it is placed on the back; consequently, light striking first surface mirrors is not weakened or distorted by travel through glass. Acrylic mirrors use plastic instead of glass. Reflectance is accomplished by glueing highly polished aluminum foil to the back side. They are visably less reflective than glass mirrors but absolutely unbreakable.)*

The fact that LTR did not anticipate a design weakness in one instance in no way reduces its credibility: when it comes to trouble shooting hardware, we need all the help we can get. LTR has already covered, or probably soon will cover, any hardware you are likely to buy for your library. It is always well worth reading, but it should serve to raise your critical faculties, not replace them.

Portable Readers

The May/June 1981 issue of *LTR* (Vol. 17, No. 3) reviewed most of the contending portable microfiche readers now on the market, carefully noting the temperatures each impinged on the microfilm. Most of the equipment threatened or exceeded the optimum high temperature threshold, something you might assume designers could get around. Fact is, they could; it is also a fact that they did not, in most cases. At which point you, too, might want to introduce some home-grown improvements equivalent to the mirror substitution we made. In this case, it might consist of replacing the standard glass flats with special heat-absorbing ones, unless you can get the manufacturer to do it for you (and us) on all units. While such a design compromise (high temperature) might not directly imperil users*, it does age film faster and perpetuates irresponsible design. On the other hand, there are applications where film is often replaced on a monthly basis anyway, so such a reader in its standard configuration would pose no problem. But at least, *LTR* is there to warn you. (* I have yet to see a toxicity study of the fumes released when film is maintained at too high a temperature, but I have my man on Krakatoa working on it.)

Hand Held

Yet one other recent source for review of reader equipment is Britain's National Reprographic Centre for documentation (NRCd). It recently released a study entitled: "Hand Held Viewers for Microfiche and Aperture Cards". It is available from its offices at The Hatfield Polytechnic, Bayfordbury, Hertford, Hertfordshire, England SG13 8LD, at £8.50 hardcopy or £3.00 microfiche; the publication number is (TER 81/1).

Not having actually seen this report yet, which I will discuss in a later issue, I mention it here to round-out our list of reader evaluations--stationary, portable, and hand held.

As for the NRCd, it is a unique institution in the microfilm industry, always poking around, doing something meaningful. It was its report, A technical appraisal of the 70mm format for map reproduction, in 1968 that once-and-for-all established the minimum format standards for map microforms and is the principal reason that 105mm is the preferred size for map preservation and replication. Its conclusions will probably not be outdated so long as glass lenses are used in photography.

The Pacific Southwest Forest & Range Experiment Station (Model 1)

MODEL 1: If, like me, you are a bargain-basement type, you could hardly do better than to read USDA Forest Service Research Note PSW-277, 1972, which describes a "Projection-Viewer for Microscale Aerial Photography", by Robert C. Aldrich, James von Mosch and Wallace Greentree. You will learn all of the fundamentals needed to design your own reader (theirs could even be altered to work using sunlight). Excepting the light source, for a net outlay of about \$130 (that's right, one hundred thirty dollars!), the Berkeley Boys made a viewer which will handle everything up to 3 1/4" x 4" transparencies, will project them on a calibrated 20" x 20" screen which can be used to draw maps, etc. Remember that! - the next time you look at microfilm equipment prices. The principles they discuss could just as easily be tailored to fit 4 x 6-inch microfiche projected on a screen of any size, although 20 x 20 inches is considerable. The fact that their light source projector was probably expensive to buy and their finished product is (at best) ungainly, should not deter imitators: they worked with what they had, as can anyone else, using available components. For instance, I've been saving those first surface microfilm reader

mirrors and some old, crazed microfiche reading screens. As soon as I get some fasteners, an artist's easel and a few more bits and pieces, overcome my preternatural fear of electricity (UL will take on new meaning), there is no telling what may be at hand.

Grayscale Labs

One subfield of microfilm currently undergoing a healthy expansion is that devoted to medicine. While much of it is content to use microfilm in conventional ways, X-ray microfilming is kindered to cartographic microfilming in interesting ways: like 7.5' quadrangles, most X-rays are taller than wide, which has led Greyscale Labs (*Greyscale Labs, Inc., 2115 Northwest Parkway, Marietta, Georgia 30067, telephone 404/953-1431*) to engineer some interesting equipment, in addition to their specialty of processing continuous tone microfilms. Their current reader, the CTR II, is intended for use with 16mm and 35mm images on fiche, has a 17½" x 14½" (44 x 37 cm.) screen and options including image rotation and a roll-film holder. Lenses are housed in a circular turret and include dual image 6X (might work for stereo-pair air photos), 11X, 15X, and 21X magnifications, completely variable brightness control--with a momentary high-intensity spot--and choice of blue or gray screens. Price ranges from \$1,460 (one lens) up to \$2,275 (includes 4 lenses & motorized roll-film advance). Their CTR/P is a similar reader/printer (with but one lens) designed to make transparencies on 14" x 17" radiographic duplicating film; but I'm sure there are some other Kodak films which would work, too, such as Precision Line Film LEN4 (*Kodak Tech Bits 1978 Volume No. 2*), or Rapid Access Mapping Film SO-340 for continuous tones (*The Compass No. 3, 1981:14*). The CTR/P has a base price of \$2,859 and ranges up to \$3,409 with power advance. Yes, that is the *high priced spread*; but it may be just the configuration you are looking for, in which case, it might not seem too expensive at all.

IMTEC IMS 105

The Imtec IMS 105 electrostatic, full-fiche reader/printer is a new offering by the manufacturer of what was the only 105mm reader/printer in the early 70s. This is (apparently) a variant of the Imtec 2000 marketed through K+E. Both share an 18" x 24" viewing screen and like-size printer. Base price is also ca. \$20,000, admittedly high, but prints are via the least expensive process possible, electrostatic. Typically, electrostatic plain paper prints are about .021¢ per square foot, while printers using special photosensitive papers will range from about 11¢ each for zinc oxide to 20¢ each for dry silver, and the *spread* may be even *higher* than that, depending on wastage.* Wastage can be especially high for silver processes because the exposure settings are very sensitive. So, as things stand now, you can pay high prices at the front-end with electrostatic equipment, then depreciate it, or, pay low front-end expense for the others, but make up the difference over time with more costly supplies. It seems apparent, too, that library's will bear the major burden with electrostatics, or patrons will bear it with higher copy prices for coated papers. One difference is that with electrostatics, the library can have more latitude to decide how the costs will be born. Of course, consideration should also be given to the nature of the material to be copied. While some electrostatics can do a very good job with continuous tone photographs (Kodak seems especially good at it), no electrostatic will make copies approaching those made on top-of-the-line dry silvers. Thus, if you will be doing extensive air photo microcopying, you should consult with 3M; for line maps, see IMTEC, Oce, K+E, or Xerox. (* Based on a local Xerox study consistent with our own experience at UCSD.)

For further information on the IMS 105, contact IMTEC Equipment, Inc., 24 Wilkins Ave., Haddonfield, NY 08033, (609)428-2633. A small photo of the unit appeared in Drafting and Repro Digest 10(5):32, October 1981; it looks just like the Imtec 2000 K+E dealers have been distributing for some time.

Resurgence of 105mm reader/printers is a welcome relief, even if their prices are not. It implies that the format is seeing more use in the architectural and engineering communities, as well as in mapping. {see Ray C. Carden, "A case for replacing the 35-mm aperture card with the 105-mm fiche", Journal of Micrographics 14(10):35-37 (October 1981)}

3M

If it's design breakthroughs you want, consider 3M's new model "283". About the size of an IBM Selectric typewriter, this paper-to-paper copier is the first I've seen to feature fiber optics, no mirrors or lenses and only a 30-watt light source. When they do the same for 105mm reader/printers, much of the bulk associated with the full-fiche format should disappear.

Filing Systems

The past two issues of this journal have contained articles dealing with the problem of filing systems for large map series, each partly critiquing a third: that proposed by the USGS for its mapping as introduced on the prototype Ohio state index.

But no one's reading is complete until they include Renato Goes De Azevedo's "International Cartographic Rules for the Demarcation of the Earth's Surface" (Journal of Micrographics 12(5):301-303, May/June 1979). Of course, having read it myself, I don't know whether to suggest you laugh or cry at such designators for 1:25,000 mapping as SD-23-y-C-IV-3-NW, and I think you should disregard the fact that he maintains that the IMW quadrangle numbering starts at Greenwich (it starts at the International Date Line for the very good reason that if it started at Greenwich, adjacent land areas in Britain would appear at the beginning and end of map sets, rather than in orderly succession), and ignore the various typos, too. Otherwise, the first principles seem well drawn, especially in a general map library; the USGS may be content with a provincial system, but map libraries dealing with worldwide mapping need an international one. Using USGS's proposed 1° x 1° grid gives too many quadrangles. The already well established IWM system, with its 4° x 6° squares, seems much more practical. Since most regular series mapping falls on even degree lines, this seems the most logical system. It remains then, to make the large scale map indexing coherent, based on AMS mapping precedents. Or, perhaps, IMWs can be superimposed on the various local systems, to bring at least a degree of nested conformity to them. Since 1:250,000 U.S. mapping already has IMW numbering, and 1:100,000 nests in it easily as NE, NW, SE, SW, it only remains to nest larger scale series in that. Should be easy enough!

A second motive for reading this article might just be that you have an interest in maps of Brazil on microfiche. If you prefer to wait, I'll have more about the products of Sensora Ltda. of Brazil in a later article.

Color Microfilm

As each new generation of microfilm users ascends its learning curve, there is renewed interest in the obvious need for color microfilms. This is especially true amongst map and art librarians: color is an intrinsic part of both disciplines. In response, the issue is addressed periodically by a micro-

form professional. The latest of these exercises is Claude Goulard's "Color Microfiche: Myth or Reality?" (IMC Journal 1981 (3):11-13).

Truth to tell, no breakthrough is at hand. Color film is still inferior in resolution and longevity, and the recommendation still persists: if you want durable color microforms, black-and-white separations are the only way to attain them. This is exactly the method used for Landsat 70mm photographs. Which is both good and bad. While it is too bad this is the only means available it is good in that there is no standardized production method standing in the way of creating a systematic approach to the problem. My favorite potential fix is still the idea of the embossed microform, which depends on the precise diffraction of light to create colors synthetically. It is based on the tendency of spectral diffraction to bend the color components of white light by predictable amounts. Consequently, if the microform is embossed properly, it will deflect the intended color to the viewer, and only that color. With such a system, color separations are made on pre-embossed-for-color microforms in such a way that the color projects through only where intended. Sandwiching four such separations together (red, yellow, blue, and a black/white component) will yield a full-color, indestructible microform.* Such a microform could then be printed out as a full-size map on Xerox style copiers, such as those being developed for the U.S. Army.

(* Gale, M. T., et al., "Surface Relief Microimages", The Journal of Micrographics 11(3):155-162, January/February 1978; and, Gale, M.T., et al., "ZOD Images: Embossable Surface-Relief Structures for Color and Black-and-White Reproduction", Journal of Applied Photographic Engineering 4(2):41-47, Spring 1978.)

But what do we do in the meantime? There are many good reasons accumulating for taking a more pragmatic approach towards the problem. For instance, one of the traditional arguments against color microforms is their great expense. Like all other opinions in microform circles, this is addressed toward the average user. However, map libraries are dealing with almost nothing but special cases. What if, as commonly occurs, in spite of its great expense, a color microform should prove cheaper to buy than the paper edition of the map? Added to its cheaper storage costs and its 25-50 year shelf life--as compared to paper's 100 years--would it not make sense to consider the microform? Even if it will have to be replenished every 25 years on average, would it perhaps be worth while? And, even if it were expensive to replicate--say \$2 per microfiche positive--would certain professional users be willing to bear the expense? Would it matter too greatly if the colors were not absolutely faithful (I have yet to see two maps printed from the same series which had perfect color match and no one seems too worried about that), so long as the colors on the key and the colors on the maps were the same shade? Might there not be situations in the field where such a microform would even have certain advantages, provided it was protected sufficiently from the elements?

Geologic mapping might be one possibility. Another might be those high-priced or impossible-to-get map series you've always wanted. We could come up with a stupendous list just using the latter two categories. Remember when GeoCenter offered copies of 1:50,000 scale AMS maps of Eastern Europe? The sheet price on these maps approached \$4 each in incomplete sets; how many would be interested in a complete set at \$2 per sheet on color microforms? Yet another instance is the current double difficulty in obtaining Mexican mapping. With a base price of \$5 per sheet and undependable supply, would a \$2 color

microform and certain delivery not make more sense? Mexico is comprised of about 2,300 quadrangles at 1:50,000, with separate series for topography, soils, land use, geology, and potential use. Cumulatively, that amounts to a \$57,500. outlay for the complete paper collection; the same maps, but in color microform, would run \$23,000 - for a net savings of \$34,500. Of course few of us deal in budgets this big, but, cumulatively, and perhaps selectively, our predicament amounts to the same thing.

Between here and there, of course, it would be necessary to establish a few baselines. It would not do, for map librarians to develop the compulsive habit of limiting user's viewing time; and consider the record keeping necessary to log use-time on each microform, to give some sense of what to expect in the way of longevity. It would require some sort of formal organization willing to preserve the paper original of a map, and to maintain cold storage of the master negatives (at least two or three would be necessary). We are not at that stage yet, obviously, but those willing to tackle studies of user interest along those lines are more than welcome to use these pages as a forum for such ideas. Meanwhile, you might find it useful to read Harold H. Dorfman's "Color Microfilm Records" (The Office 83(4):18-19, 189, April 1976). He details those cartographic circumstances where color microfilm is justified for the City of New York. He also gives you a sense of what you might be getting into.

Cold Storage

One essential in the battle to preserve color films is cold storage. The American Film Institute (John F. Kennedy Center for the Performing Arts, Washington, D.C. 20566) and the Library of Congress co-sponsored a conference on the topic last April. The Proceedings: Conference on the Cold Storage of Motion Picture Films is full of helpful information based on the experience of leading institutions in North America and Western Europe. Copies are available free from Mr. Joseph G. Empsicha, Associate Motion Picture Archivist at the American Film Institute. Any library with a preservation program liable to include film--especially color film--should have a copy.

4,287,152

**METHOD OF FOR RETARDING DYE FADING DURING
ARCHIVAL STORAGE OF DEVELOPED COLOR
PHOTOGRAPHIC FILM**

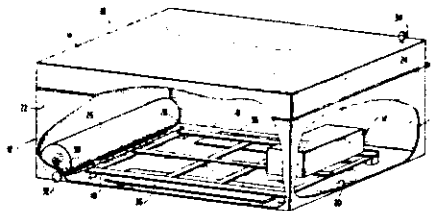
Richard B. Hoover, and Charles M. Rhodes, both of Huntsville, Ala., assignors to The United States of America as represented by the Administrator of the National Aeronautics and Space Administration, Washington, D.C.

Filed Feb. 7, 1980, Ser. No. 119,340

Int. Cl.³ B01J 19/14, 19/00

U.S. Cl. 422-40

6 Claims



1. A method for retarding dye fading during archival storage of developed color photographic film comprising the steps of:
- (a) placing the film in a sealed opaque vault;
 - (b) venting the vault;
 - (c) introducing a dry, pressurized inert gas into the vault while the latter is vented; and
 - (d) sealing the vault after the air in the vault is purged and replaced by the inert gas.

New Mapping of Western North America

Contributions by: MB = Mary Blakeley, University of Arizona, Tucson
 BC = Barbara Cox, University of Utah, Salt Lake City
 JC = Jim Coombs, Southwest Missouri State Univ; Springfield
 LC = Larry Cruse, University of California, San Diego
 ML = Mary Larsgaard, Colorado School of Mines, Golden
 RM = Riley Moffat, Brigham Young University, Provo, Utah
 EP = The Editor, from Publisher's blurbs & items in hand

Regional

¶ U.S. Bureau of Mines. Intermountain Field Operations Center.

Overthrust Belt Study Area, Idaho - Utah - Wyoming. s.l., 1979.

RM 7 maps 83 x 42 cm. 1:500,000 Overlays show past and present mineral production locations, leasable mineral areas, locatable mineral areas, wilderness systems, federal oil and gas lease, federal mineral estate.

¶ U.S. Bureau of Mines. Western Field Operations Center.

Overthrust Belt Study Area, Montana - Idaho. Washington, D.C., 1980.

RM 7 maps 112 x 83 cm. 1:500,000 Information dated 1979. Overlays show federal mineral ownership, wilderness system, locatable mineral prohibited and restricted areas, leasable mineral prohibited and restricted areas, federal oil and gas leasing, mineral industry locations.

¶ U.S. Forest Service.

Caribou National Forest, Idaho, Utah, and Wyoming. Washington, D.C., 1980.

JC

58 x 48 cm. 1:316,800 free Forest Supervisor, Caribou National Forest, 427 North Sixth Ave., Pocatello, ID 83851.
 GPO Depository no. A13.28:C19/963. Compiled in 1963. Includes recreation site directory. Text and illus. on verso.
 OCLC: 7014545

¶ U.S. Forest Service.

Green River - Hams Fork coal study region, Wyoming and Colorado. Washington, D.C., 1980.

JC

48 x 60 cm. 1:500,000 free USDA, Forest Service, Rocky Mountain Region, Denver Federal Center, Building 85, Denver, CO 80225
 GPO Depository no. A13.28:G82/2. Shows coal lease and lease application areas.

¶ U.S. Forest Service.

Manti-LaSal National Forest, Utah and Colorado. Washington, D.C., 1981.

JC

49 x 58 cm. 1:300,000 free Forest Supervisor, 599 West Price River Dr., Price, Utah 84501 GPO Depository no. A13.13:M31/5. Compiled in 1962. Contains text and photos on verso. Includes recreation site directory. OCLC: 7523158

¶ U.S. Forest Service.

JC Targhee National Forest, Idaho and Wyoming. Washington, D.C., 1981.
69 x 59 cm. 1:285,000 *free* Forest Supervisor, 420 North Bridge
St., St. Anthony, Idaho 83445 GPO Depository No. A13.13:T17/965.
Compiled in 1965. Includes recreation site directory. Contains text
and photos on verso. OCLC: 7532510

¶ U.S. Forest Service.

JC Timber sale action plan FY 1981 - FY 1984, Rogue River National Forest,
Oregon and California. Washington, D.C., 1980.
122 x 96 cm. 1:126,720 *free* Forest Supervisor, P.O. Box 520,
Medford, OR 97501. GPO Depository No. A13.28:R63. Includes charts
showing details of each sale. OCLC: 7189908

¶ U.S. Forest Service.

JC Timber sale action plan FY 1982 - FY 1985, Siskiyou National Forest,
Oregon and California. Washington, D.C., 1981.
105 x 95 cm. 1:126,720 *free* Forest Supervisor, Grants Pass, OR
97526. GPO Depository No. A13.28:Si8/2. Includes charts showing
details of each sale. OCLC: 7184679

¶ U.S. Forest Service.

JC Toiyabe National Forest, South Sierra Division, Nevada and California.
Washington, D.C., 1980.
67 x 72 cm. (Printed on both sides of sheet.) 1:200,000 *free*
Forest Supervisor, P.O. Box 1331, Reno, NV 89504. GPO Depository No.
A13.28:T57. Compiled in 1969. Includes text, col. ill., vicinity
map, and recreation site directory. OCLC: 6732111

Arizona

¶ Arizona Department of Transportation

Arizona 1981 road map. Phoenix, 1981.
MB 90 x 60 cm. 1:1,000,000 *free* Arizona Office of Tourism,
1700 West Washington, Room 501, Phoenix, AZ 85007. Includes mileage
chart, index to cities and towns, city maps of Phoenix, Tucson, Yuma
and Flagstaff.

¶ City of Tucson. Department of Transportation.

City of Tucson traffic volumes. Tucson, April 1981.
MB 59 x 89 cm. \$2.00 City of Tucson, Traffic Engineering Division,
P.O. Box 27210, Tucson, AZ 85726. Inset: Central Business District.

¶ Molner, Robert

MB Molner map of Arizona. Phoenix, 1981.
129 cm x 103 cm. \$10.95 Arizona Map Shop and Gallery, 1315 North
Central Avenue, Phoenix, AZ 85004. Accompanied by an index to cities
and towns. List of points of interest.

- ¶ Phoenix Mapping
 MB Metropolitan Tucson. Phoenix, 1981.
 100 x 143 cm. \$28.00 Phoenix Mapping, 1320 North 1st St., Phoenix,
 AZ 85004. Accompanied by street index.
- ¶ U.S. Bureau of Land Management
 RM State of Arizona: wilderness status map. Washington, D.C., 1981.
 66 x 58 cm. 1:1,000,000 GPO Depository No. I53.11:W64
- ¶ U.S. Forest Service
 JC Coconino National Forest, Arizona. {Albuquerque, NM?}, 1981.
 On sheet 70 x 107 cm. Printed on both sides of sheet. 1:126,720.
free Forest Supervisor, Patterson Blvd., Flagstaff, AZ 86001. GPO De-
 pository No. A13.28:C64. Compiled in 1969, revised 1975, reprinted
 1981. Includes text, col. ill., key maps, and vicinity map with
 USGS index, and directory of recreation sites. OCLC: 7632862
- ¶ U.S. Forest Service.
 JC Coronado National Forest, Arizona. Washington, D.C., 1980.
 68 x 107 cm. Printed on both sides of sheet. 1:126,720. *free* Forest
 Supervisor, Coronado National Forest, Tucson, AZ. GPO Depository No.
 A13.28:C81/3. Compiled in 1976, includes text, col. ill., U.S.G.S. map
 index, and recreation site directory. OCLC: 7086657

California

- ¶ California Division of Mines and Geology
 JC & RM Geothermal Resources of California. {Sacramento}, 1980.
 146 x 122 cm. 1:750,000 *free on GPO Depository No. C55.22/2:C12/no. 4*
 Includes data on individual springs and wells, and Imperial Valley in-
 set. OCLC: 7493309 or 7565682 Also available from: California Divis-
 ion of Mines and Geology, 2815 O Street, Sacramento, CA 95816.
- ¶ San Francisco Convention & Visitors Bureau
 EP San Francisco Pocket Map. San Francisco, 1981.
 40 x 23 cm. ca. 1:20,000 for Downtown, ca. 1:55,440 for city map.
 Tourist brochure, folded to 23 x 10 cm. Text and Points of Interest
 keyed to map. *free* {author}, 1390 Market St., San Francisco, 94102
- ¶ Sanborn Map Company
 EP San Francisco Maps: 1899-1900. A compilation of over 700 maps, micro-
 filmed at the Library of Congress expressly for Vlad Shkurkin, Publish-
 er.
 1 roll 35mm black & white microfilm containing six volumes published
 over a two-year period. Reduction about 16:1. Frame size is about
 1.87 inches and sufficient margin is provided for jacket or aperture
 mounting. ISBN 0-932732-22-4. \$80.00 Vlad Shkurkin, 6025 Rose Ar-
 bor, San Pablo, CA 94806. Phone (415) 232-7742.

Two versions of the same Associated Press story - two different papers!

Wednesday, June 24, 1981 - Santa Cruz Sentinel-5

Visitors Stumble Into 'War Zone'

Misleading Tourist Maps Worry Police

SAN FRANCISCO (AP) — Police say they are worried that tourist guide maps are setting up tourists as mugging targets in one of the city's most crime-prone neighborhoods.

The maps, highlighting points of interest in one of the world's most visited cities, lead sightseers through a public housing complex in the city's Western Addition on their way between the downtown area and Golden Gate Park. The distance is actually two miles but on the maps it looks like a mere four blocks.

"Going in there is like going into a war zone," commented one officer. "And sending some innocent tourist in there thinking he's out for a walk to Golden Gate Park is like turning a kitten loose on the freeway."

The maps are "somewhat misleading and may jeopardize the safety of visitors to our city," added Police Chief Cornelius Murphy.

There were 75 street assaults reported in the neighborhood

last month, police say. And, although map makers report having received no complaints from tourists, officers say robberies in the area are up dramatically over the same period last year.

Murphy has become so concerned about the potential for tourist muggings that he asked one of the map companies, Color Coded Publications, to modify its product.

But John Benus, editor and publisher of Color Coded, said he does not think many people walk through that area, and he does not intend to change his maps. Officials of another map company, Tourmap Co. of Spokane, Wash., said they are in the process of reprinting their San Francisco maps to include a warning that some areas are unsafe for walking, and that distances may be distorted.

A spokesman for the city Visitors and Convention Bureau said maps from the two companies are distributed only on request and then with a warning that they are not printed to scale. The bureau has its own maps with a more accurate depiction of distances.

[The San Francisco Chronicle, on Oct. 19, 1981, in a related story printed its own map on this subject - crime on the streets of San Francisco - and had an accompanying article citing the statistics.]
See map on next page!

SF maps lead tourists to muggers

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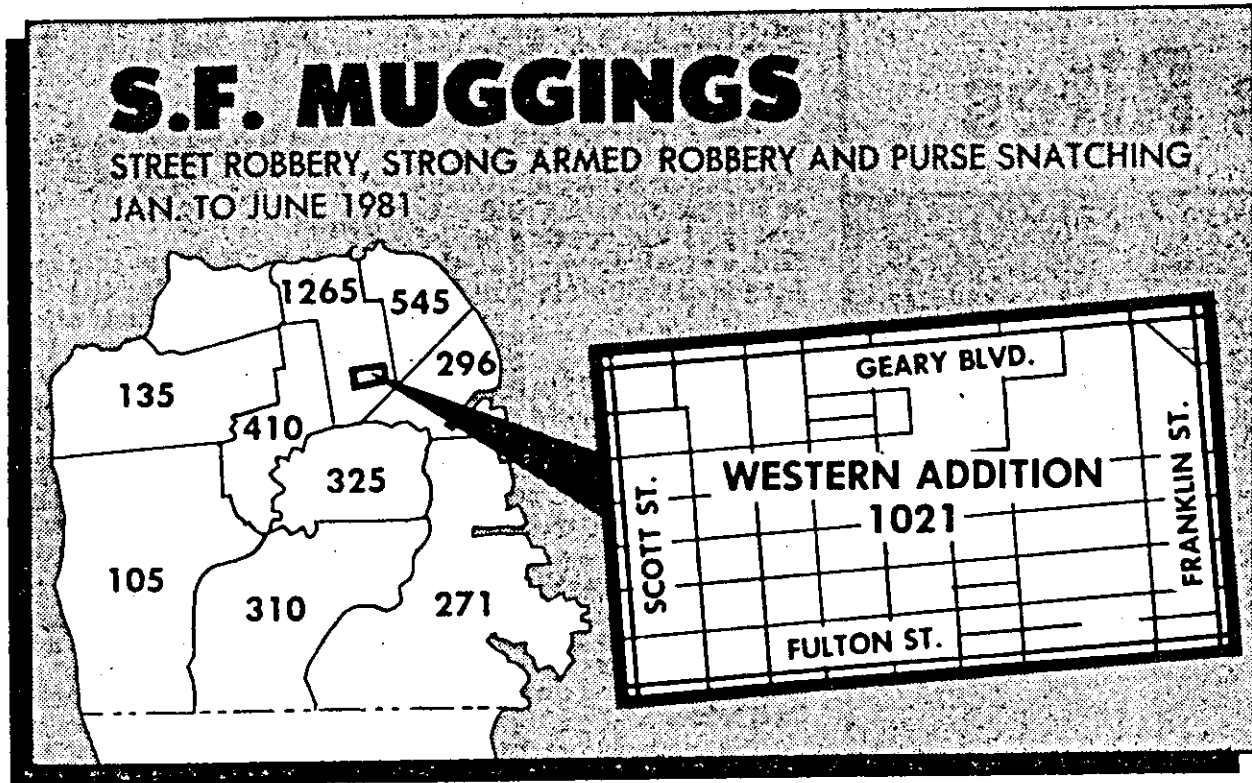
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Most Dangerous Streets of the City

{San Francisco Chronicle 10-19-81}



San Francisco muggings, by police district, in the first half of 1981

¶ Santa Barbara Office of Public Works

LC & EP {Bicycle map of Santa Barbara and vicinity} as described in the July 1981 issue of Sunset Magazine, p. 5: A new map outlines all the bikeways in Santa Barbara and neighboring Goleta and Carpinteria. For a free copy, write to or drop by the office of Public Works - Bicycle Program, 630 Garden St., Santa Barbara 93101.

The map also points out where you can catch the Bike Bus....

¶ Southern California Economic & Job Development Council

LC {Southern California industrial land} as described in the September 21, 1981 Fortune Magazine (Vol. 104, No. 6): A four-color map of Southern California with a detailed drawing on the reverse side showing the industrial land areas of one of the 10 counties (Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara or Ventura) is available for \$3.50 for each map (or \$31.50 for a set of all 10) to: Southern California Economic & Job Development Council, 404 South Bixel Street, Los Angeles, California, 90017.



WESTERN ECONOMIC RESEARCH CO.

13437 VENTURA BLVD.
SHERMAN OAKS, CALIFORNIA 91423
(213) 981-9762

1980 CENSUS MAPS & MATERIALS		Area Covered	Size	Year Issued	Unit Price	
Census Tract Outline Maps & Overlays						
Shows the boundaries of the Tracts & the Tract numbers in easy to use form.	Map	Northern Ca. 8 Co's & Sac.	30"x42"	1980	\$15	
	Overlay	Northern Ca. 8 Co's & Sac.	30"x42"	1980	30	
	Map	San Fran. Bay 13 Co's	30"x42"	1980	\$15	
	Overlay	San Fran. Bay 13 Co's	30"x42"	1980	30	
	Map	Central Ca. 8 Co's	30"x42"	1980	\$15	
	Overlay	Central Ca. 8 Co's	30"x42"	1980	30	
	Map	L.A. 5-Co. Area	30"x42"	1980	\$15	
	Overlay	L.A. 5-Co. Area	30"x42"	1980	30	
	Map	San Diego-Imperial	31"x36"	1980	\$15	
	Overlay	San Diego-Imperial	31"x36"	1980	30	
	Map	Rest of So. Ca. 3 Co's	30"x42"	1980	\$15	
	Overlay	Rest of So. Ca. 3 Co's	30"x42"	1980	30	
	1980 Census Tract Guides					
	A listing of Census Tracts, showing: the legal jurisdiction, the P.O., the Zip Code, the Statistical Area, the Map Grid Index on our Maps, the Thos. Bros. Map Location, the Acreage, and an indication if the Tract was split since 1970.					
		Northern Ca. 8 Co's	6 Pages	1981	\$25	
		San Fran. Bay 13 Co's	40 Pages	1980	50	
		Central Ca. 8 Co's	13 Pages	1981	25	
		L.A. 5-Co. Area	67 Pages	1980	75	
		San Diego-Imperial	12 Pages	1980	35	
		Rest of So. Ca. 3 Co's	7 Pages	1981	25	
1980 Census Tract Numbers						
A listing of all 1980 Census Tract numbers in numerical sequence by Counties,						
		All Ca. 38 Tracted Co's	15 Pages	1980	\$35	
1980 Population & Race Data						
A print-out of the first official re-apportionment data by Tracts. Shows for each Census Tract: the Total Population; the White Population; the Black Population; the Spanish Population; the Asian Population; the Indian-Eskimo Population; and other Races.						
		Northern Ca. 8 Co's	150 Tracts	1981	\$20	
		San Fran. Bay 13 Co's	1,500 Tracts	1981	40	
		Central Ca. 8 Co's	170 Tracts	1981	20	
		L.A. 5-Co. Area	2,400 Tracts	1981	50	
		San Diego-Imperial	400 Tracts	1981	20	
		Rest of So. Ca. 3 Co's	180 Tracts	1981	20	
1980 Population Distribution Maps & Overlays						
Dot maps showing how the 1980 Population was distributed. The paper prints have the Census Tract boundaries in the background. The Mylar Overlays just show the Dots.	Map	L.A. 5-Co. Area	30"x42"	1981	\$20	
	Overlay	L.A. 5-Co. Area	30"x42"	1981	30	
	Map	San Fran. Bay 13 Co's	30"x42"	1981	20	
	Overlay	San Fran. Bay 13 Co's	30"x42"	1981	30	
	Map	San Diego-Imperial	31"x36"	1981	20	
	Overlay	San Diego-Imperial	31"x36"	1981	30	
1980 SPANISH Population						
Shows % of Population that were of "Spanish Origin", in 4 colors and 10 gradations.						
	Map	San Fran. Bay 13 Co's	30"x42"	1981	\$20	
	Map	L.A. 5-Co. Area	30"x42"	1981	20	
1980 BLACK Population						
Shows % of Population that were "Black" or "Negro" in 4 colors and 10 gradations.						
	Map	San Fran. Bay 13 Co's	30"x42"	1981	\$20	
	Map	L.A. 5-Co. Area	30"x42"	1981	20	

Other 1981 maps are described in the Co.'s Check List and Order Blank. Write or phone for your copy - address and phone number as above.

¶ U.S. Bureau of Land Management

California Desert Vehicle Program. Washington, D.C., 1978.

JC 60 x 46 cm. 1:1,008,000 *free* BLM State Director, 2800 Cottage Way, Room E-2841, Sacramento, CA 95825. GPO Depository No. I53.11:C12/6 Shows areas closed, open, and restricted to vehicle travel. Includes descriptions of numbered areas on verso. OCLC: 4558667

¶ U.S. Forest Service. Pacific Northwest Region.

RM & EP Pacific Crest National Scenic Trail. Portland, OR., March 1981.

70 x 98 cm. printed both sides. 1:720,000. Northern California on one side, Southern California on other. *free* GPO Depository No. A13.28:P11/2. Base Map produced by Engineering, Geometronics, Automated Cartography. P.C.N.S.T. Comprehensive Plan. Forest Service, P.O. Box 3623, Portland, OR 97208.

¶ U.S. Forest Service

Shasta-Trinity National Forest, California : forest visitors map. Washington, D.C., 1981.

JC 43 x 44 cm. 1:400,000 *free* Forest Supervisor, Redding, CA 96001 GPO Depository No. A12.12:Sh2/3. Includes recreation site directories, contains text and photos on verso. OCLC: 7387054

¶ U.S. Forest Service

JC Stanislaus National Forest, California. Washington, D.C., 1977.

89 x 70 cm. 1:126,720. *free* Forest Supervisor, 175 South Fairview Lane, Sonora, CA 95370. GPO Depository No. A13.28:St2. Includes key map, vicinity map, and recreation site directory. Contains text and ill. on verso. OCLC: 6819949

¶ U.S. Bureau of Land Management

RM State of California : wilderness status map. Washington, D.C., 1981.

110 x 102 cm. 1:1,000,000. *free* GPO Depository No. I53.11:W64

¶ University of California. Los Angeles. Department of Geography.

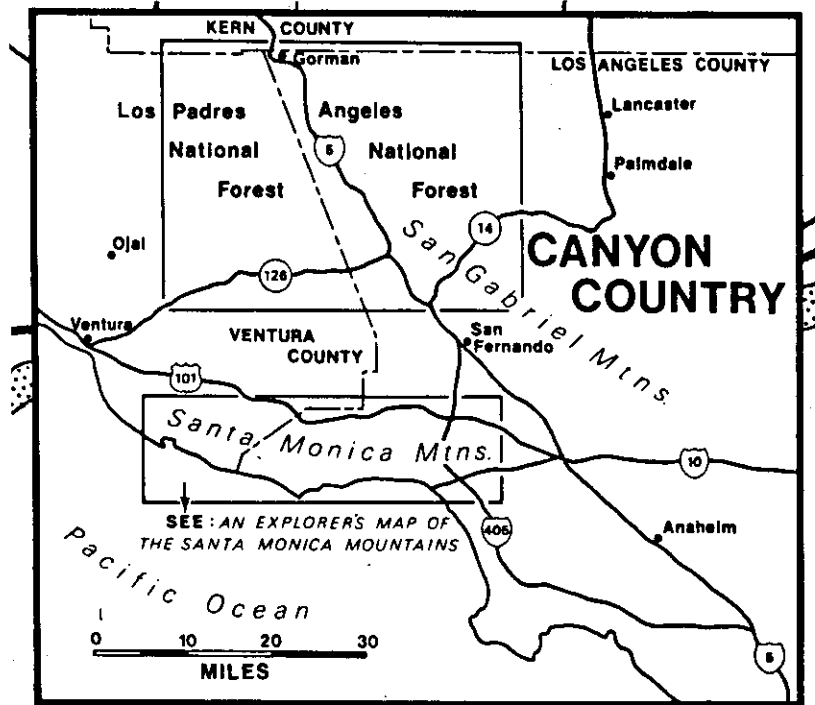
Exploring Canyon Country, Los Angeles & Ventura Counties, California.

EP 48 x 63 cm. folded to 24 x 11 cm. Title on main map is: An Explorer's Map of Canyon Country. Maps on verso have titles: Pyramid Lake; Condor Reserve; Lake Piru; Castaic Lake. Text on verso: Wildlife refuge and lake recreation. Location map is inset on main map and shows the relationship of this map to the companion map created by the same Department/Cartographic Laboratory at UCLA: Exploring the Santa Monica Mountains. {1979} This map is Copyright 1981 by The Regents of UC.

Research and cartography: Dirk W. Hansen & Rolf D. Kleinhaus; consultant for graphics and design: Noel L. Diaz {Staff Cartographer}. Professor of Geography Norman J.W. Thrower acknowledged the assistance of students William Bradley, Jonathan Chapman, and Barbara Sarantitis. Publisher is Abraham J. Falick, dba Navigator Press, 6010 Wilshire Blvd., Los Angeles, CA 90036. \$3.95 ea. + 6% tax for CA orders + 40¢ for Postage.

Exploring Canyon Country, Los Angeles & Ventura Counties, California.

Inset map indicates the relationship of this 1981 map with its companion published in 1979: Exploring the Santa Monica Mountains. Both are available from Navigator Press. \$3.95 and 4.95 respectively.



Colorado

¶ ENMAP Corporation

Guide to Colorado's Weather and Climate. Boulder, 1981?

88 x 56 cm. folded to 27 x 13 cm. printed both sides.

MAP SIDE: This is a full color map of Colorado with major roads, cities, and other features clearly shown and labeled. Its main attraction, however, is the prominent display of climate "data blocks", each located next to the city for which the data are given. There are 77 of these blocks.... and include the following information: elevation of weather station, yearly average temperature (F°), yearly average total precipitation, yearly average snowfall, and monthly averages for high and low temperatures, total precipitation, and snowfall.

Also the map side emphasizes locations and names of major Colorado ski areas, mountain passes... elevations are tinted yellow, green, brown: less than 7,500 feet, 7,500 to 10,000 feet, and greater than 10,000, respectively.

TEXT SIDE: *Climate of Colorado, Colorado Ski Weather, NOAA Weather Radio, Solar Energy.*

ENMAP Corp., Dept. FL, Box 4430, Boulder, CO 80306 \$3.95 plus 50 cents shipping and handling per order. Bulk orders of 10 or more: \$2.50 ea.

¶ Hirleman, Nancy Colvin

Historical map of Huerfano County, Colorado / by Nancy Colvin Hirleman ; with research assistance by Sara Jo Murphy. [La Veta, Colo.?, Huerfano County Historical Society?], c1981.

ML 1 map ; 73 x 88 cm. Scale {1:126,720} 1/2 inch equals 1 mile. Brown print on cream paper. Includes illustrations of buildings and A Brief Chronology. OCLC: 7587989

Huerfano County Historical Society, Fort Francisco Museum, La Veta, Colorado 81055 =Price not known=

¶ U.S. Bureau of Land Management

RM State of Colorado : wilderness status map. Washington, D.C., 1981.
48 x 64 cm. 1:1,000,000 GPO Depository No. I53.11:W64

¶ U.S. Forest Service

JC White River National Forest, Colorado: Forest visitor's map. Reston, VA., U.S. Geological Survey, 1980.

126 x 154 cm. 1:126,720 free GPO Depository No. A13.28:W58/2
Printed on both sides of sheet. Compiled in 1969; revised 1979.
Includes text, col. ill., index to USGS topo maps, and recreation site directory. OCLC: 7159476
Forest Supervisor, P.O. Box 948, Glenwood Springs, CO 81601

¶ U.S. Geological Survey

EP County Map Series. Through a joint effort by the state of Colorado and USGS, Colorado is the first state in the nation to have a new series of topographic maps completed. The maps of each of the state's 63 counties are now available for purchase by the public, following recent completion of the eight-year project.

The five-color maps were published by the USGS at a scale of 1:50,000. A total of 202 sheets are required to cover the 63 counties. Sheets range in size from 24 x 30 inches to 37 x 48 inches. Data for the new series were compiled from the most recent 1:24,000 and 1:62,500 scale maps and from aerial photographs, with selected new and revised information added.

The maps are available to the public at a cost of \$2 per sheet from the Branch of Distribution, U.S. Geological Survey, P.O. Box 25286, Federal Center, Denver, CO 80225. Mail orders must specify the title and identification number of each map sheet requested and include a check or money order payable to USGS. An index is obtainable from the State Cartographer, Colorado Department of Local Affairs, Room 520, 1313 Sherman St., Denver, CO 80203, or the USGS Branch of Distribution listed above.

Idaho

¶ U.S. Bureau of Land Management

RM State of Idaho : wilderness status map. Washington, D.C., 1981.
81 x 53 cm. 1:1,000,000 GPO Depository No. I53.11:W64

¶ U.S. Bureau of Land Management

EP Surface Management & Surface-Minerals Management intermediate scale maps, Scale 1:100,000

FORMAT: one ° longitude x 30 " latitude geographic coverage
sheet size: 107 cm. by 76 cm. (42 x 30 inches)

CONTENT: Township, range, section lines; roads, streams, towns,
some other cultural and physiographic features.

EDITIONS: Surface Management portrays Public Lands managed by BLM,
other federal lands including those of the National Park
Service, Fish and Wildlife Service, state lands, private
lands.
Surface-Minerals Management depicts the extent of Federal
owned mineral rights overprinted on the Surface Manage-
ment edition.

PRICE: \$2.00 per sheet.

ORDERING: Specify edition. Idaho State Office, Room 398 Federal
building, 550 West Fort Street, or P.O. Box 042, Boise, ID 83724.
Also available at District Offices in Boise, Burley, Coeur d'Alene,
Idaho Falls, Salmon, and Shoshone.

IDAHO sheets: Circular Butte, 1979; Leadore, 1980; Malad City, 1979.

¶ U.S. Forest Service

JC Sawtooth National Forest, Idaho : travel plan. Washington, D.C., 1980.
77 x 92 cm. printed on both sides of sheet. 1:168,000 GPO Depository
No. A13.13:Sa 9/5/979. Shows where motor vehicles are allowed,
restricted, or prohibited, includes text. OCLC: 7545177
Forest Supervisor, 1525 Addison Ave. East, Twin Falls, ID 83301.

Montana

¶ U.S. Bureau of Land Management

RM State of Montana : wilderness status map. Washington, D.C., 1981.
58 x 94 cm. 1:1,000,000 GPO Depository No. I53.11:W64

¶ U.S. Bureau of Land Management

JC Upper Missouri National Wild & Scenic River (Montana). Washington,
D.C., 1980.
4 maps, each 21 x 77 cm. or smaller, on 2 sheets, each 46 x 92 cm.
1:63,360 Includes col. ill. and text. Intended to be used as a
floater's guide. BLM, Lewistown District, Airport Rd., Drawer 1160,
Lewistown, MT 59457 OCLC: #6954190 and #694250
GPO Depository No. I53.11: M690/no.1-4

¶ U.S. Forest Service

JC Beaverhead National Forest, Montana : Forest Travel Plan. Washington,
D.C., 1981.
2 maps on sheet 118 x 82 cm. 1:140,000 Shows areas where motorized
vehicles are allowed, restricted, or prohibited. OCLC:7630531
GPO Depository No. A 13.28: B38w Forest Supervisor, Box 1258, Dillon,
MT 59725.

Nevada

- ¶ U.S. Bureau of Land Management
RM State of Nevada : wilderness status map. Washington, D.C., 1981.
 80 x 55 cm. 1:1,000,000 GPO Depository No. I53.11:W64
- ¶ U.S. Bureau of Land Management
EP Surface Management & Surface-Minerals Management intermediate scale maps, Scale 1:100,000
 {see description in listings for IDAHO}
- NEVADA: Las Vegas, 1978; Osgood Mountains, 1979; Pahute Mesa, 1979; Simpson Park Mountains, 1979; Wendover, 1979.
- Nevada State Office, Federal Building, Room 3008, 300 Booth St., Reno, NV 89509. District Offices in Battle Mountain, Carson City, Elko, Ely, Las Vegas, and Winnemucca.

New Mexico

- ¶ New Mexico Energy Institute at New Mexico State University
Geothermal Resources of New Mexico. Washington, D.C., 1980.
 136 x 119 cm. 1:500,000 Includes text, legend, references cited, and inset map showing heat flow in the Rio Grande rift.
JC & RM GPO Depository No. C55.22/2:N42m OCLC: #7472803
 The Institute, Box 3E1, Las Cruces, NM 88003
- ¶ U.S. Bureau of Land Management
JC New Mexico public land recreation map. Washington, D.C., 1980.
 68 x 59 cm. 1:1,000,000 Includes col. ill. and text on verso.
 GPO Depository No. I53.11:N42m BLM, P.O. Box 1449, Santa Fe, NM 87501
 OCLC: #6720502
- ¶ U.S. Bureau of Land Management
RM State of New Mexico : wilderness status map. Washington, D.C., 1981.
 69 x 60 cm. 1:1,000,000 GPO Depository No. I53.11:W64
- ¶ U.S. Bureau of Land Management
EP Surface Management & Surface-Minerals Management intermediate scale maps, Scale 1:100,000
 {see description in listings for IDAHO}
- NEW MEXICO sheets: Truth or Consequences, 1979.
 New Mexico State Office, U.S. Post Office & Federal Bldg., South Federal Place, P.O. Box 1449, Santa Fe, NM 87501. District Offices in Albuquerque, Las Cruces, Roswell, Socorro.
- ¶ U.S. Forest Service
JC Cibola National Forest, New Mexico: Mount Taylor Ranger District. Albuquerque, NM, 1980.
 2 maps on sheet 62 x 82 cm. 1:126,720 printed on both sides of sheet. Compiled in 1967, revised 1975. GPO Depository No. A 13.28:C48/2
 OCLC: #7757226 Forest Supervisor, 10308 Candelaria NE, Albuquerque, NM 87102

Oregon

62

¶ U.S. Bureau of Land Management

RM State of Oregon : wilderness status map. Washington, D.C., 1981.
51 x 67 cm. 1:1,000,000 GPO Depository No. I53.11:W64

¶ U.S. Bureau of Land Management

JC Siuslaw : Noti & Lorane Resource Areas. Washington, D.C., 1978.
54 x 77 cm. 1:126,720 Includes col. ill. and text on verso.
GPO Depository No. I53.11:Si9 BLM, Eugene District, P.O. Box 10226,
Eugene, OR 97440 OCLC: #4452318

¶ U.S. Bureau of Land Management

Surface Management & Surface-Minerals Management intermediate scale
maps, Scale 1:100,000

{see description under IDAHO Listings}

EP

OREGON sheets: Nehalem River, 1979; Williamson River, 1980.

Oregon State Office, 729 N.E. Oregon St., P.O. Box 2965, Portland,
OR 97208. District Offices in Baker, Burns, Coos Bay, Eugene,
Lakeview, Medford, Prineville, Roseburg, Salem, and Vale.

¶ U.S. Forest Service

Eagle Cap Wilderness, Wallowa-Whitman National Forest, Oregon.
Portland, OR.?, 1980.

JC

108 x 88 cm. 1:63,360 Includes recreation site directory. Verso
contains an exceptionally clever illustration of wilderness camping
regulations, tree and wildlife species, etc. GPO Depository No.
A 13.28: Ea3 Eagle Cap Ranger District, Enterprise, OR 97828
OCLC: #7632824

Utah

¶ Hintze, Lehi F.

BC

Geologic map of Utah. Salt Lake City, 1981. Utah Geological and
Mineral Survey, 606 Black Hawk Way, Salt Lake City, UT 84108.

&

RM

116 x 93 cm. 1:500,000 \$12.00 Includes sheet of stratigraphic
columns and profiles

¶ U.S. Bureau of Land Management

State of Utah : land ownership and public management. Washington, D.C.,
1980.

JC

23 sheets, each 93 x 78 cm. 1:126,400 GPO Depository No. I53.11:Ut
1/2 OCLC: #7407870 BLM, Utah State Office, University Club Bldg.,
136 E. South Temple St., Salt Lake City, UT 84111

¶ U.S. Bureau of Land Management

RM

State of Utah : wilderness status map. Washington, D.C., 1981.
58 x 47 cm. 1:1,000,000 GPO Depository No. I53.11:W64

¶ U.S. Bureau of Land Management

Surface Management & Surface-Minerals Management intermediate scale maps, Scale 1:100,000

EP

{for description see IDAHO listings}

UTAH sheets: Escalante, 1980; Rush Valley, 1979; Salt Lake City, 1980.

Utah State Office, Federal Bldg., 125 S. State, P.O. Box 11505, Salt Lake City, UT 84147. District Offices, Cedar City, Moab, Richfield, Salt Lake City, Vernal.

¶ U.S. Forest Service

Manti-LaSal National Forest, Utah : travel plan. Washington, D.C., 1981.

JC

2 maps on sheet 78 x 68 cm. 1:170,000 GPO Depository No. A 13.13:M32 Shows where motor vehicles are allowed, restricted, or prohibited. Includes text. Forest Supervisor, Manti-LaSal National Forest, 599 West Price River Dr., Price, UT 84501 OCLC: # 7623895

¶ Utah Geological and Mineral Survey

Geothermal resources of Utah. Washington, D.C., 1980.

JC

&
RM

115 x 93 cm. 1:500,000 GPO Depository No. C 55.22/2:Ut1 Includes text, table of thermal springs and wells, and physiographic provinces map of Utah. UGMS, 606 Black Hawk Way, Salt Lake City, UT 84108 OCLC: # 7465281

Washington

¶ U.S. Bureau of Land Management

EP

Surface Management & Surface-Minerals Management intermediate scale maps, Scale 1:100,000

{for description see IDAHO listings}

WASHINGTON sheets: Richland, 1978; Toppenish, 1979.

Washington State Office, 729 N.E. Oregon St., P.O. Box 2965, Portland, OR 92708. District Office, Spokane.

¶ U.S. Forest Service

Colville National Forest, Washington : Forest visitors map. Washington, D.C., 1981.

JC

on sheet 92 x 67 cm. printed on both sides of sheet. 1:126,720 Compiled in 1973, recreation data revised 1980. Includes text, col. ill., key maps, index to topo. maps, and recreation site directories. Forest Supervisor, 695 S. Main, Colvill, WA 99114 OCLC: #7658235

¶ U.S. Forest Service.

Wenatchee National Forest, Washington. Washington, D.C., 1981.

JC

on sheet 127 x 107 cm. 1:100,000 GPO Depository A 13.28: W48 OCLC: #7634006 Forest Supervisor, Wenatchee, WA 98801

Wyoming

¶ U.S. Bureau of Land Management

Wyoming public land user maps. Washington, D.C., 1979.

JC

14 sheets, each 56 x 84 cm. 1:200,000 Includes text and ill. on verso. Contents: #5 Bighorn Mts.; #6 Dull Knife; #7 Devils Gate; #8 Fort Steele; #9 Flaming Gorge; #10 South Pass; #11 Wind River; #12 Heart Mountain. OCLC: #s 5116497; 5116559; 58C7122; 5624034; GPO Depository No. I53.11:W99 HLM Wyoming State Office, P.O. Box 1828, 2515 Warren Ave., Cheyenne, WY 82001 (phone 307/778-2326)

¶ U.S. Bureau of Land Management

State of Wyoming : wilderness status map. Washington, D.C., 1981.

RM

48 x 62 cm. 1:1,000,000 GPO Depository No. I53.11:64

¶ U.S. Bureau of Land Management

EP

Surface Management & Surface-Minerals Management intermediate scale maps, Scale 1:100,000

{for description see IDAHO listings}

WYOMING sheets: Bill, 1979; Burgess Junction, 1979; Evanston, 1980; Newcastle, 1979; Nowater Creek, 1979; Worland, 1979.

Wyoming State Office, Lea Building, 2515 Warren Ave., P.O. Box 1828, Cheyenne, WY 82001. District Offices in Casper, Rawlins, Rock Springs, and Worland.

¶ U.S. Forest Service

Bridger-Teton National Forest (Bridger division - east half), Wyoming : Travel plan. Washington, D.C., 1980.

JC

74 x 76 cm. 1:170,000 Shows where motor vehicles are allowed, restricted, or prohibited. Text and ill. on verso. GPO Depository No. A 13.13: B76/3. Supervisor's Office, Bridger-Teton National Forest, 340 N. Cache St., P.O. Box 1888, Jackson, WY 83001 (phone 307/733-2752)

¶ U.S. Forest Service

Bridger-Teton National Forest, Wyoming: Bridge Division. {Ogden, Utah?}, {1981?}

JC

70 x 75 cm. 1:250,000 This map was reproduced by electronic color scanning of original (1968) map. Verso contains text, ill., and title: Bridger National Forest. GPO Depository No. A 13.28: B76 Forest Supervisor, P.O. Box 1888, Jackson, WY 83001 (phone 307/733-2752) OCLC: #5496569

News Notes !

¶ MEXICO - NEW EFFORT TO SUPPLY NORTH AMERICAN LIBRARIES WITH MAPS

Stephen C. Mullin, longtime member of WAML, Map Library Assistant at UC Berkeley for nine years, has left the employ of the the University and has made one successful acquisitions trip to Mexico City to obtain topographic and other maps from the official Mexican agency that produces 1:50,000, 1:250,000, and 1:1,000,000 topo series, as well as geologic, land use, etc., and is planning another trip soon. He makes all customs clearances, shipping arrangements, etc., and charges for only those maps delivered to your library - prices range from \$6.00 U.S. to \$5.25 US, depending on the number of maps delivered, prices decreasing as the number of maps delivered increases.

He may be reached at 456 Alcatraz Ave., Oakland, California 94609.

¶ CANADA - ASSOCIATION OF CANADIAN MAP LIBRARIES - 1982 ANNUAL CONFERENCE

The A.C.M.L. conference will be held in Ottawa, in conjunction with the 75th anniversary celebrations of the National Map Collection. A number of special events will take place, including the opening of the exhibition on August 17: *Treasurers of the National Map Collection*. The 48th General Conference of IFLA will be held in Montreal, August 22-28.

Conference Theme: Map Producers and Map Collections: Perspectives on Co-Operation

Registration fee: \$30.00 (subject to change)

Accommodation: University of Ottawa Residences or Skyline Hotel

Information: Organizing Committee - 1982 - ACML Conference,
National Map Collection, Public Archives of Canada,
395 Wellington Street, Ottawa, Ontario K1A 0N3

¶ COLORADO - 2nd INTERNATIONAL CONFERENCE ON GEOLOGICAL INFORMATION

The Second International Conference on Geological Information will be held at the Colorado School of Mines on May 23-27, 1982. The conference is sponsored and organized by the Geoscience Information Society and the Geological Information Group of the Geological Society of London, together with the International Union of Geological Sciences, Association of Chief Librarians of National Geological Surveys and Association of Geoscientists for International Development.

The program is arranged on the theme of international cooperation to identify and share geological information. Specialized sessions will be planned for topics such as building library collections, specialized data files, map acquisitions, translations, and publishing.

Residents of the Americas may contact D.C. Ward, 223 Natural History Bldg., 1301 West Green St., Urbana, Illinois 61801. All others write A.P. Harvey, Dept. of Library Services, British Museum (Natural History), Cromwell Road, London SW7 5BD, United Kingdom. Local chairman is H.K. Phinney, Jr., Director of Library, Colorado School of Mines, Golden Colorado 80401.

¶ THE WORLD'S BIGGEST RELIEF MAP GETS AND OVERDUE FACELIFT

An article with the above title, by Brian Vachon and photographs by Richard Howard, appeared in the July 1981 Smithsonian (Vol. 12, No. 4) pp. 94-98. The map is the Babson College Great Relief Map (of the United States), conceived in 1923, completed in 1940, consisting of 1,600 17-by-12-inch blocks, each carefully built of cardboard with topographic details modeled in plaster. It was conceived by Roger Babson, and a brick building was constructed on the Babson College campus (at Wellesley Hills, Massachusetts) to house the map. It is 1:250,000 and measures 65 feet from Maine to California and 45 feet from Texas to Michigan.

¶ NEW HEAD OF U.S. GEOLOGICAL SURVEY

Dr. Dallas L. Peck, 52, was appointed by President Reagan to be the Director of the U.S. Geological Survey. Peck, a native of Cheney, Washington, received his BA & BS in geology at California Institute of Technology and his PhD in 1960 at Harvard. He joined the USGS in 1951 and much of his career has been in geological and geothermal energy studies in the West, including field research at the USGS Hawaiian Volcano Observatory.

¶ REBINDING (OR BOXING) OF ATLASES

J.B. Post, Map Librarian at the Free Library of Philadelphia, recently wrote to The Library Scene (Suite 633, 50 Congress St., Boston, MA 02109) and complained that a March 1981 issue of that journal which carried a list of 55 Certified Library Binders in the U.S. and Canada and their services did not include atlas binding.

The Editor of The Library Scene responded that *it was impossible to include every type of service in the reference chart. ... A list of those Certified Library Binders who handle the rebinding (or boxing) of atlases will be sent to you. Anyone else who also would like this list may write to The Library Scene.*

¶ NORTH BY WEST - NEW MAP DEALER IN EDMONTON

NbW is a new Canadian business specializing in antique maps, prints, and topographic books. A particular specialty is Canada, the Arctic and the West, although material from all parts of North America will be carried.

17th & 18th century material has risen rapidly in price (approx. doubled in the past 5 years) but the special attractions of 19th century maps have not yet been widely recognized, so price tags are more affordable. N b W will carry a wide selection of material in the C\$50. to C\$250. price range.

N b W will invoice in American dollars at the prevailing rate and postage in the U.S. and Canada is included. N b W has issued its first list which is available at:

N b W (14), Box 11538, Main P.O. Edmonton, Alberta T5J 3K7, Canada.

- ¶ Charley Seavey, Head, Government Publications & Maps, University of New Mexico, Albuquerque, has compiled the following list for which we are thankful:

According to the latest Library of Congress Publications in Print (1981) the following are available free on request. This publication lists many other LC publications relating to maps, but they all cost money. Get the free ones, and check the list for those you are willing to spend money for. Write: Library of Congress, Central Services Division, Washington 20540.

A la Carte; selected papers on maps and atlases. 1972.

Aviation Cartography; a historico-bibliographic study of aeronautical charts. 2nd ed. 1960.

Detroit and vicinity before 1900; an annotated list of maps. 1968.

Guide to the history of cartography; an annotated list of references on the history of maps and mapmaking. 1973.

A list of geographical atlases in the Library of Congress, with bibliographic notes. Vol. 3 (1913), vol. 5 (1958), vol. 6 (1963), vol. 7 (1973), and vol. 8 (1974).

Three dimensional maps, an annotated list of references relating to the construction and use of terrain models. 2nd ed. 1964.

Ward maps of United States cities; a selective checklist of pre-1900 maps in the Library of Congress. 1975.

- ¶ CALL FOR PAPERS - MAGERT Philadelphia 1982

The American Library Association will meet in Philadelphia, July 10-17, 1982. Part of the program of the Map and Geography Roundtable will be a session of contributed papers. There is no established theme, but papers should be related to maps either as historical documents, geographic tools, or information sources. Spoken presentations should be planned for around 20 minutes, although the text version may be as long as necessary. Please send a title and brief description or outline to the undersigned by November 1, 1981. Final selection will be made by December 1, 1981. Papers accepted for presentation will be considered for publication at a later date.

Charles A. Seavey, GPMD-General Library, University of New Mexico,
Albuquerque, New Mexico 87131

- ¶ USGS INTRODUCES A NEW PRODUCT - PROVISIONAL MAP EDITION - "P" Maps

The U.S. Geological Survey has announced a significant modification of its topographic map program. The National Mapping Division will add a provisional map edition for its 7.5-minute quads. The provisional map edition is essentially a partially edited, multicolor advance print that is printed lithographically in the same manner as standard maps. Provisional editions will be prepared for most remaining unmapped 7.5-minute quad areas, including areas currently covered by 15-minute maps. The first map in the seven state Rocky Mountain region of USGS will be available in 1982.

The primary objective of this program is to complete nationwide large-scale coverage by 1987-88. Otherwise completion could extend past the year 2000.

STATE-FEDERAL MAP COORDINATION MEETINGS:
A UNIQUE OPPORTUNITY FOR MAP LIBRARIANS

by

Steve Hiller
Map Librarian
University of Washington Libraries
Seattle

Each year the National Mapping Division (NMD) of the U.S. Geological Survey (USGS) and the State Mapping Advisory Committee (SMAC) of each state sponsor a State-Federal Map Coordination Meeting. The purpose of these annual gatherings is to bring together representatives from those federal and state agencies involved in mapping activities within the state to discuss current mapping programs and products.

Representatives from the National Mapping Division of the USGS present a review of USGS mapping activities with particular emphasis placed on statewide programs. Representatives from other governmental agencies also provide brief reports on their mapping activities. A highlight of these meetings are the recommendations for new topographic mapping in the state. While most map authorizations are established according to OMB Circular A-16, each state with a SMAC is allocated a certain number of maps based on state needs.

A brief review of the most recent Washington State-Federal Map Coordination Meeting will illustrate the potential usefulness of this meeting for map librarians. Representatives from twenty-five state and federal agencies attended the day long meeting held in Olympia on December 15, 1980. Roger Harding of the Washington State Department of Natural Resources (DNR), and Chairperson of the SMAC, opened the meeting with a brief statement on its purpose. He emphasized the advantages of interagency cooperation in the mapping field and described three programs in the state which embodied this cooperative approach: orthophotomap production, 1:100,000 scale map compilation, and the state resident cartographer program. Washington was the first state to have a resident cartographer, a position funded by the Western Mapping Center of the USGS and DNR. Responsibilities of the state resident cartographer include liaison work with the governmental agencies involved in mapping as well as dissemination of information concerning mapping programs and products to the public. This program has now spread to several other western states.

Dick Swinnerton, Chief of the Western Mapping Center (WMC), began the USGS part of the program with a lengthy presentation on the activities of the NMD and how they affect Washington state. He discussed the status of the standard topographic mapping program (7.5 minute series) and noted that while the completion date for this series is still scheduled for the late 1980s, maps in that series may not finally be published until 1994. It currently requires from five to eight years from the time of map authorization to map publication. He examined NMD priorities over the next decade which showed a shift from topographic mapping, revision and maintenance to the production of digital cartographic materials. Finally, he discussed the role of the WMC in Mt. St. Helens mapping and the volcano hazard program. The latter program will require new

1:24,000 scale topographic maps for many of the volcanic areas of the Northwest.

Pete Bermel, Assistant Division Chief, Plans and Coordination, National Mapping Division, was the next USGS speaker. He noted that state participation in joint funding agreements with the USGS was one method states could use to ensure that their areas of interest would be mapped expeditiously. He discussed the recent reorganization of the National Mapping Division and examined its budget. Mr. Bermel concluded with a review of the emerging digital cartography program at the NMD.

Dick Swinnerton returned with a brief presentation on the map reproduction services offered by the WMC. The WMC is currently upgrading services in this area by implementing an automatic tracking system on the availability and condition of reproducible items, developing a standard order form, upgrading materials, using more contract support, and establishing satellite sales outlets. The Washington State Department of Natural Resources, for example, will begin sale of USGS reproducibles for Washington state in Spring 1981. Mr. Swinnerton noted that the recent publication of the Map Data Catalog will provide the public with information on the variety and availability of NMD mapping products.

Gene Napier, Chief, Plans and Coordination, WMC, concluded the USGS presentation with a review of the past year's WMC activity in Washington (see Appendix A). He then discussed the requests for new mapping as submitted by federal agencies and the SMAC. Most of these recommendations called for new mapping in southcentral and southwest Washington. These requests will be sent to national headquarters in Reston where a final decision will be made on new mapping authorizations.

Roger Harding, Chair of Washington SMAC, returned with a discussion of DNR activities in the fields of orthophotography and the development of a statewide geographic information system. DNR will produce 1:12,000 orthophotomaps from 1:36,000 scale negatives. Productions will be on a regional basis, with the first region (extreme western Washington) to appear in 1981. DNR is also involved in the creation of a state geographic information system. The proposed Geographic Information Services Center will be administered by an advisory committee composed of representatives from state agencies which have contributed data to the system.

Brief reports from other agency representatives on their mapping activities followed. Among the highlights were the Mt. St. Helens mapping and photo programs of the U.S. Forest Service, Bureau of Land Management, Corps of Engineers, and Washington State Department of Transportation. The latter agency has also produced a new publication titled Urban Areas of Washington.

The Federal-State Map Coordination Meetings represent a unique opportunity for map librarians to meet with map producers and receive the latest information on mapping activities within their states. It is an excellent occasion to initiate contacts with those in the cartographic establishment and to communicate the needs of your collection and its community of users.

Most meetings are held in the fall and winter. If you are interested in attending your state meeting contact the chairperson of your SMAC for information and an invitation. The names and addresses of SMAC chairpersons in the WMC region are provided in Appendix B.

CALIFORNIA

Mr. Charles McCullough, Chief
Environmental Measurement Branch
Division of Planning
Department of Water Resources
1416 - 9th Street FTS 8-465-2352
Sacramento, CA 95814

COLORADO

Dr. Louis F. Campbell, Jr.
State Cartographer and Chairman
Colorado Mapping Advisory Committee
Colorado Division of Planning
1313 Sherman Street, #500-C
Denver, CO 80203

HAWAII

Mr. Kazutaka Saiki
State Land Surveyor
Survey Division
Department of Accounting and General
Services (808) 548-7422
P.O. Box 119
Honolulu, HI 96810

IDAHO

Mr. Ray Miller, Supervisor
Technical Services Section
Department of Lands
Statehouse FTS 8-554-3816
Boise, ID 83720

MONTANA

Mr. R. Thomas Dundas, Jr.
Chairman, Montana Mapping Advisory
Committee
Research and Information Systems
Division
Montana Department of Community
Affairs
Capitol Station
Helena, MT 59620

NEVADA

Mr. Robert Rigsby (702) 885-4865
Office of the Governor
State Planning Coordinator's Office
State Capitol Building, Room 57
Carson City, NV 89710

NEW MEXICO

Mr. Forest F. Barron
Executive Secretary
New Mexico Mapping Advisory Committee
State Engineer's Office
State Capitol
Santa Fe, NM 87503

OREGON

Dr. John Beaulieu
Deputy State Geologist
Department of Geology and Mineral
Industries
1069 State Office Building
Portland, OR 97201 FTS: 8-424-5580

TEXAS

Mr. C. R. Baskin, Chairman
Texas SMAC
Texas Dept. of Water Resources
P.O. Box 13087, Capitol Station
Austin, Texas 78711

UTAH

Mr. Donald T. McMillian
Chairman, Utah SMAC
Utah Geological & Mineral Survey
606 Black Hawk Way
Salt Lake City, Utah 84108

WASHINGTON

Mr. Roger A. Harding
Section Manager
Resource Inventory Section
Division of Management Services
Department of Natural Resources
Public Lands Building QW-21
Olympia, WA 98504 FTS: 8-206-753-5338

WYOMING

Mr. George Christopoulos, Chairman
Wyoming SMAC
State Engineer
Barrett Building
Cheyenne, WY 82001



For information on activities in states
outside of the WMC region, contact re-
gional mapping centers in Denver, Rolla,
or Reston.

WASHINGTON

	TOTAL NUMBER OF MAPPING UNITS IN STATE	NO. OF MAPS PUBLISHED FY 80	PUBLISHED TOTAL TO DATE	TOTAL NO. OF MAPS IN WORK	NO. OF MAPS AUTHORIZED FY 80	NO. OF MAPS REVISED FY 80
7.5 MINUTE MAPPING	1392	7	834 (60%)	241 (17%)	25	7
1:100,000-SCALE QUADS	53	5	18 (34%)	35 (66%)	11	0
1:100,000-SCALE COUNTY MAPS	37	0	1	13	0	0
1:250,000-SCALE REVISION	18	0	8	8	7	0
NATIONAL PARK MAPS	3	0	3	1*	0	0
STATE BASE MAPS	1	0	1	1**	0	0

* Revised form

** Update

APPENDIX C

	TOTAL NO. OF MAPPING UNITS IN STATE	AVAILABILITY OF ADVANCE MATERIALS BY MAPPING UNIT	MAPS COMPLETED THIS FY (80)	NO. OF MAPS IN WORK	NO. OF MAPS AUTHORIZED THIS FY (80)
7.5-MINUTE ORTHOPHOTOQUAD	1392	624 (45%)	51	262 (19%)	245
DIGITAL ELEVATION MODELS	1392	32	32	0	32
DIGITAL LINE GRAPHS BY 7.5-MINUTE QUAD	1392	102	79	104	116
1:100,000 LAND USE AND LAND COVER MAP	53	4	0	0	0
1:250,000 LAND USE AND LAND COVER MAPS	18	10	2	5	7
1:50,000-SCALE DEFENSE MAPPING AGENCY QUAD	348	1	1	2	3

APPENDIX A

U.S. Geological Survey
National Mapping Program
Fiscal Year 1980 Summary for the State of Washington

Program Objectives

Under the National Mapping Program, administered by the Geological Survey's National Mapping Division (NMD), multipurpose published maps and basic map data are produced for a variety of needs. The Program's published maps include topographic maps, orthophotoquads, State maps, land use, and other special subject maps. The Program provides a wide spectrum of basic map data as map production by-products, including aerial photographs, reproducible map materials, and geodetic control.

A recent Program emphasis is the reorientation from producing principally printed maps to an automated effort of creating and maintaining a digital data base that can be used to provide a wide variety of output including printed maps.

Services to Federal, State, and local agencies include the coordination of mapping requirements and technical assistance in satisfying them. Government agencies and the general public are served by the Program's National Cartographic Information Center (NCIC).

Highlights of 1980

- ¶ Statistics and indices of available products for the State (see Appendix C).
- ¶ Washington State Mapping Advisory Committee participated in naming three hundred and fifty-three 1:24,000-scale quadrangles that were previously not named. The proposed names are presently being reviewed.
- ¶ State Mapping Advisory Committee has reviewed the revised 1:500,000-scale state map, and it has been distributed to concerned agencies and counties for review.
- ¶ The 1:100,000-scale metric Olympic National Park map is being revised.
- ¶ A jointly funded Interagency Personnel Agreement between the Department of Natural Resources and the NMD was renewed for the State Resident Cartographer position.
- ¶ Requests for sixteen new 1:24,000-scale maps were received from state agencies at the mapping coordination meetings hosted by the state, and eight were authorized. Seventeen 1:24,000 maps were authorized from federal requests; the twenty-five total authorizations are in the Mt. St. Helens (16) and Cle Elum (9) projects.
- ¶ The NMD entered into a work-share agreement with the U.S. Forest Service to produce one hundred ninety-nine new orthophotoquads along the Cascade Mountain range.
- ¶ The National High Altitude Program photography flown in FY 80 included all of Washington west of 123° longitude, and the eastern portion of the Seattle and Victoria 1:250,000 quadrangles. In FY 81 the Washington portion of the

Vancouver, The Dalles, Pendleton, and Pullman 1:250,000 quadrangles, the remainder of Hoquiam, and the eastern half of the Yakima 1:250,000 quadrangles are also scheduled to be flown.

- ¶ National Mapping Division (NMD) Mt. St. Helens activity has involved numerous federal, state, county, and private organizations in coordination and various kinds of mapping activities (see Mt. St. Helens Summary).

MT. ST. HELENS SUMMARY

1:24,000-Scale New Mapping

- ¶ Twenty-eight new 1:24,000-scale topographic maps are in production.

Orthophotography

- ¶ In support of the Mt. St. Helens disaster effort, a 32 orthophoto project was authorized utilizing 1980 1:40,000-scale *quarter quad centered* photos.

Digital Data

- ¶ Thirty-two Digital Elevation Model quads were completed representing the pre-eruption condition of Mt. St. Helens. Post eruption elevation models are currently in work.

DLG

- ¶ Thirty-two 1:24,000-scale quadrangles were authorized for digitizing public land surveys and boundaries.

1:100,000-Scale Mapping

- ¶ A 1:100,000-scale special edition, pre-eruption map of Mt. St. Helens and vicinity was prepared and published within three weeks after the May 18 eruption.
- ¶ A 1:100,000-scale post eruption map of Mt. St. Helens and vicinity is in progress in cooperation with the U.S. Forest Service and the Washington State Department of Natural Resources.

Land Use/Land Cover and Associated Maps

- ¶ A 1:100,000-scale Land Use and Land Cover special edition update map is in progress.
- ¶ The 1:250,000 land use/land cover and associated maps for Hoquiam (Mt. St. Helens is on the Hoquiam map) were digitized.

APPENDIX B

STATE MAPPING ADVISORY COMMITTEE CHAIRPERSONS

Alaska

Mr. Phil Wallick, Chairman
Alaska Mapping Advisory Committee
Department of Natural Resources
323 E. 4th Avenue; Anchorage, Alaska 99501

Arizona

Ms. Patricia Bergthold
Office of Economic Planning and Development; 1700 W. Washington
Executive Tower, Room 505; Phoenix,
AZ 85007 (602) 255-3833

Geologic Map Index to USGS 7.5' & 15' Quadrangles of California, 1883 - 1980

by
Joe Crofts

Part **H-O**

Government Publications-Maps
University Library
California State University, Chico

This index covers the detailed geologic maps of California that are distributed among ten irregularly issued map and monograph series published by the United States Geological Survey. Previous indexes to these maps are not organized around a common areal descriptor of sufficiently limited extent, which makes it difficult to determine coverage of specific areas. This index correlates U.S.G.S. geologic maps of California with 7.5' and 15' topographic quadrangles.

The U.S.G.S. topographic index map for California provides areal access to 7.5' and 15'-square zones by division of the state into quadrangles. Patrons seeking a geologic map of a specific area frequently utilize the index map and define their area in terms of the corresponding quadrangle(s). The standard 7.5' and 15' topographic maps are frequently used as base maps for geologic maps. Requests for topographic maps are frequently followed by requests for geologic maps of those quadrangles.

Geologic maps having scales of 1:125,000 and larger are covered in this index. Chronologically, the index begins with the earliest relevant map in each series and extends through 1980; *excluded from this index are maps issued in the Open-File Report series prior to 1974.*

The arrangement of the index is alphabetical by quadrangle name, with 7.5' quadrangles preceding identically named 15' quadrangles. Data elements provided for each quadrangle are: series name and number of each report containing a geologic map of that quadrangle or portion thereof; and, the extent of coverage of each geologic map of the quadrangle.

The ten series containing geologic maps of California covered in this index, with their title abbreviations, and the beginning date of each series are listed in the Legend. Also listed are abbreviations of areas and geographic directions used in the descriptions.

LEGEND

United States Geological Survey Series

B Bulletin 1883-
GF Geologic Folio 1894-
GP Geophysical Investigations Map 1946-
GQ Geologic Quadrangle Map 1949-
I Miscellaneous Geologic Investigations
Map 1955-
MF Mineral Investigations Field Studies
Map 1950-
OF Open-File Report 1974-
OM Oil and Gas Map 1943-
P Professional Paper 1902-
W Water-Supply Paper 1896-

Coverage Notations

E east, east of E. East
L. Lake N north, north of
N. North NE northeast
NW northwest
R range (U.S. Land Survey)
R. River S south, south of
SE southeast SW southwest
T township (U.S. Land Survey)
V. Valley
W west, west of
W. West

<u>Quadrangle</u>	<u>Publication</u>	<u>Coverage</u>
Haiwee Res. 15	P 438, pl. 1(sh.3)	complete
Half Moon Bay 7.5	GF 163	complete
Half Moon Bay 7.5	MF 328	complete
Half Moon Bay 7.5	MF 575	complete
Half Moon Bay 7.5	P 943, pl. 1	coastal lowlands
Half Moon Bay 15	GF 163	complete
Half Moon Bay 15	MF 575	complete
Hames Valley 7.5	B 1221-B	complete
Hames Valley 7.5	OM 24	complete
Hames Valley 7.5	P 646-B	complete
Hames Valley 7.5	P 819	complete
Harris Ranch 7.5	B 603	E 120°10'30"
Harrison Mtn. 7.5	W 1419, pl. 1	T1N R3W 19, 28-35; T1N R4W 24-25,36 (urbanized lowlands, primarily in SW ¼)
Harvey Mountain 15	GQ 443	complete
Haskins Valley 7.5	GF 43	complete
Haskins Valley 7.5	P 731, pl. 2,3	complete
Hatch 7.5	MF 945	excl. west of San Joaquin R.
Havasu Lake 7.5	P 486-J	N 34°24'30"
Hawes 15	MF 226	complete
Hawes 15	P 522	complete
Hayfork 15	MF 576	complete
Haystack Mtn. 7.5	MF 945	complete
Hayward 7.5	GF 193	complete
Hayward 7.5	GQ 88	complete
Hayward 7.5	OF 80-540	complete
Hayward 7.5	MF 429	incl. urbanized area of Hayward, San Lorenzo, Castro Valley, Ashland excl. hilly area south of Lake Chabot between Castro Valley and Ashland extending southward to vicinity of Markham School
Hayward 7.5	P 943, pl. 1	urbanized lowlands, incl. Hayward, Castro Valley, Ashland
Hayward 15	GF 193	complete
Hayward 15	MF 575	San Mateo Co. (SE ¼)

Healdsburg 7.5	P 943, pl. 1	1 - Russian R. south of Healdsburg 2 - Alexander V. 3 - T8N R8W 7,17-18,20,28-33 T8N R9W 23,25-27,34-36
Healdsburg 7.5	W 1427	S 38°35'
Healdsburg 7.5	W 1548, pl. 1	T8N R9W 2-5,8-11,14-17,20-23, 26-29,32-35 T9N R8W 16-21,28-30 T9N R9W 13-17,20-29,32-35 incl. Russian R. valley
Helendale 7.5	MF 229	complete
Helendale 7.5	P 522	complete
Hepsedam Peak 7.5	OF 69-16	complete
Hepsedam Peak 7.5	B 581-D	excl. T18S R11E 8-10,15-17,20-22, 27-29,32-34
Hernandez Res. 7.5	OF 69-16	complete
Hernandez Valley 15	OF 69-16	complete
Hernandez Valley 15	P 819	T18S R9E 15-16,21-22,26-28,33-36 T19S R9E 1-4,9-16,21-28 T19S R10E 6-8,17-21,27-30
Herndon 15	MF 945	N ½
Hesperia 7.5	P 522	complete
Hi Vista 7.5	P 522	complete
Hidalgo Mtn. 7.5	I 490	complete
Hidalgo Mtn. 7.5	MF 205	N 34°25'
High Divide 7.5	W 1254	T17N R1E 7 ; T17N R1W 1,12 ; T18N R1E 19,30-31 ; T18N R1W 24-25,36
Hildreth Peak 7.5	I 752	N 34°35'
Hinkley 7.5	MF 233	complete
Hinkley 7.5	P 522	complete
Hiouchi 7.5	W 1254	T16N R1E 3-10,15-22,27-30 T16N R1W 1,12-13,24-25 T17N R1E 16-21,28-33 T17N R1W 13,24-25,36
Hodge 7.5	MF 233	complete
Hodge 7.5	P 522	complete
Holland Canyon 7.5	I 757	complete
Holland Canyon 7.5	I 788	complete
Holland Canyon 7.5	P 646-C	complete
Holland Canyon 7.5	B 406	E 120°10'

Holland Canyon 7.5	B 721	T27S R17E 3-6,8-10,16-18,20-21,28
Holland Canyon 7.5	P 1082	NE ½
Hollister 7.5	OF 75-394	complete
Hollister 7.5	MF 357	T13S R4E 1-2,11-14,23-26,35-36 T13S R5E 7-8,16-22,26-36
Hollister 15	OF 75-394	complete
Hollywood 7.5	GP 149	complete
Hollywood 7.5	P 165	N 34°06'30" ; W 118°17'
Hollywood 7.5	W 1461	excl. T1S R13W 5-8,17-20 T1S R14W 1-2,11-14 T1N R13W 31-32 ; T1N R14W 32-36
Homewood 7.5	GF 39	complete
Honcut 7.5	GF 17	complete
Honeydew 7.5	MF 1196-A	T2S R1W 36 ; T3S R1E 6-7,18-21,27-34 T3S R1W 1,12-13,24-25,36 T4S R1E 2-12 ; T4S R1W 1,12
Honker Bay 7.5	MF 484, sh. 5	complete
Honker Bay 7.5	P 943, pl. 2	N 38°02'
Honker Bay 7.5	OF 80-2009	complete
Hopland 7.5	W 1548, pl. 2	T12N R11W 2-4 T13N R11W 7-8,10-11,14-24,26-34 T13N R12W 12-13,24-25,36
Hopland 15	W 1548, pl. 2	T12N R11W 2-4 T13N R11W 7-8,10-11,14-24,26-34 T13N R12W 9-16,23-25
Hornbrook 15	P 1086	T45N R7W 1-18 ; T45N R8W 1-3,10-15 T46N R6W 18-19,30-31 T46N R7W 5-9,13-36 T46N R8W 1-2,11-14,23-26,35-36 T47N R8W 26,35-36 (primarily south of Klamath River and west of Shasta River)
Hornbrook 15	W 1484	T45N R6W 2-11,14-18 ; T45N R7W 1-4, T46N R6W 2,9-11,14-16, 9-16 22-23,26-28,32-35
Hornitos 7.5	GF 41	complete
Hot Springs Mtn. 7.5	OF 80-960	complete
Howard Ranch 7.5	B 603	complete
Howard Ranch 7.5	OF 75-394	complete
Huasna Peak 7.5	I 757	T32S R16E 20-22,27-29,33-34 T12N R32W 28-29,33
Hunters Point 7.5	GF 193	complete

Hunters Point 7.5	MF 311	Hunters Point
Hunters Point 7.5	MF 574	Hunters Point
Huntington Lake 15	GQ 987	complete
Hurricane Deck 7.5	B 621-M	N 34°49' E 119°47'
Hurricane Deck 7.5	I 487	excl. northeast of Sierra Madre Rd.
Hurricane Deck 7.5	I 757	excl. S 34°46'40" W 119°48'20" (SW 1/8)
Idria 7.5	B 603	complete
Idyllwild 15	MF 1159-A	T5S R3E 7-17,20,23-26
Independence 15	B1181-0	complete
Independence 15	I 506	complete
Independence 15	MF 254	complete
Independence 15	P 110	complete
Independence 15	P 438, pl. 1 (sh. 3)	complete
Indian Cove 7.5	I 561	complete
Indian Gulch 15	MF 945	SW 1/8
Inglewood 7.5	GP 149	complete
Inglewood 7.5	W 1461	complete
Inverness 7.5	MF 574	complete
Inyokern 7.5	W 2007	complete
Inyokern 15	W 2007	complete
Inyokern SE 7.5	W 2007	complete
Inyokern SE 7.5	P 522	excl. T27S R39E 2-4,10-11
Ione 7.5	GF 11	complete
Ione 7.5	OF 79-436	complete
Ione 7.5	P 827	T6N R10E 16,21
Irish Hill 7.5	GF 11	complete
Irish Hill 7.5	OF 79-436	complete
Irish Hill 7.5	GF 63	T7N R10E 9,16-17,20-21,28-29,33
Irish Hill 7.5	P 827	T6N R10E 4-5,9,16 ; T7N R9E 1,12 T7N R10E 4-9,16-21,28-29,32-33
Iron Mts. 15	MF 205	complete
Isabel Valley 7.5	MF 343	complete
Isabel Valley 7.5	P 943, pl. 1	Isabel V.
Isleton 7.5	MF 484, sh. 5	complete
Isleton 7.5	P 943, pl. 2	west of Steamboat Slough, incl. Ryer Island
Ivanpah 15	P 275	complete

Jackrabbit Hill 7.5	B 1089-B	complete
Jackrabbit Hill 7.5	P 522	complete
Jackson 7.5	GF 11	complete
Jackson 7.5	OF 79-436	complete
Jackson 7.5	GF 63	T5N R11E 3-6,8-12,15-16,21-22 T6N R10E 13-14,24-25 T6N R11E 15-22,27-34
Jackson 7.5	P 827	T5N R11E 4-6,8-9,16-17 T6N R10E 13,14-16,21,24-25 T6N R11E 17-21,28-33
Jamison Ridge 7.5	W 1548, pl. 3	T22N R12W 19-23,27-32
Jawbone Ridge 7.5	GF 41	complete
Jenny Lind 7.5	GF 11	complete
Jenny Lind 7.5	79-436	complete
Jericho Valley 7.5	MF 483, sh. 4	T11N R5W 2-5,7-11,14-23,26-35 T11N R6W 24-26,35-36 T12N R5W 23,26-27,33-35
Jersey Island 7.5	MF 484, sh. 5	complete
Jersey Island 7.5	P 943, pl. 2	south of San Joaquin River (Contra Costa Co.)
Jimtown 7.5	P 943, pl. 1	Alexander V. ; Digger Bend
Jimtown 7.5	W 1548, pl. 1	T9N R8W 4-9,16-18 ; T9N R9W 1-5,8-17 ; T10N R8W 30-32 T10N R9W 15-17,20-29,32-36 (incl. area south of north slope of Alexander Valley)
Joaquin Rocks 7.5	B 603	complete
Joaquin Rocks 7.5	B 357	S 36°19'30"
Joaquin Rocks 7.5	B 398	S 36°19'30"
Johannesburg 7.5	P 522	complete
Johnsville 7.5	GF 37	complete
Jolon 7.5	B 1181-Q	complete
Jolon 7.5	P 646-A	complete
Jolon 7.5	OM 24	excl. S35°56' ; W 121°12'30"
Jolon 7.5	P 819	NE ½
Jonesville 15	P 731, pl. 1	S 40°01'
Joshua Tree 15	I 516	complete
Joshua Tree North 7.5	I 516	complete
Joshua Tree South 7.5	I 516	complete

Juniper Hills 7.5	P 522	excl. T3N R10W 5-6 T3N R11W 1-2 T4N R11W 35-36
Juniperro Serra 15	MF 750	complete
Juniperro Serra 15	P 819	NE $\frac{1}{2}$
Juniperro Serra Peak 7.5	MF 750	complete
Juniperro Serra Peak 7.5	OM 24	T19S R5E 25-36 ; T20S R6E 1-5
Juniperro Serra Peak 7.5	P 819	NE $\frac{1}{2}$
Kaiser Peak 15	GQ 894	complete
Kaiser Peak 15	MF 1181	T7S R25E 13-15,21-28,33-36 T7S R26E 15-23,26-32 T8S R25E 1-4,9-11 T8S R26E 6
Keeler 15	P438, pl. 1 (sh. 3)	complete
Keeler 15	P 110	N 36°17'
Keene 7.5	I 611	complete
Kelso 15'	MF 205	S 35°02' ; W 115°36'
Kenwood 7.5	MF 483, sh. 2	complete
Kenwood 7.5	P 943, pl. 2	Los Guilico lowlands and Bennet V. and V. of the Moon
Kenwood 7.5	W 1427	T6N R6W 3-10 ; T6N R7W 1-3,10-12 T7N R6W 19-20,27-34 T7N R7W 10,13-15,22-27,34-36
Kenwood 7.5	W 1495	T6N R6W 3-4,9-10
Kerens 15	MF 205	complete
Kettle Rock 7.5	B 353	S 40°10'30"
Kettle Rock 7.5	B 353	S 40°10'50" ; W 121°38'15"
Kettle Rock 15	B 353	S 40°10'50" ; W 121°38'15"
Kettleman 7.5	I 757	T21S R18E 23,25-26,35-36 T22S R18E 1-2,11-14,23-24 T22S R19E 6-8,17-21
Kettleman City 7.5	B 398	T22S R18E 13-14,23-24
Kettleman City 7.5	B 357	T22S R18E 13-14,23-24
Kettleman City 7.5	P 195	T22S R18E 13-14,23-24
Kettleman Plain 7.5	B 357	complete
Kettleman Plain 7.5	B 398	complete
Kettleman Plain 7.5	I 757	complete
Kettleman Plain 7.5	P 646-C	complete
Kettleman Plain 7.5	P 1082	complete

Kettleman Plain 7.5	P 195	T22S R17E 23-25 T22S R18E 19-23,25-26,31-35 T23S R18E 2-4,9-11,14-15,22-23, 26-27,34-35
Kettleman Plain 7.5	P 205-C	T23S R17E 18-20,29-32 ; T23S R18E 2-36
Kimshew Point 7.5	GF 43	complete
Kimshew Point 7.5	P 731, pl. 1,3	complete
Kings Beach 7.5	GF 39	complete
Kirkville 7.5	OF 79-1606	complete
Kismet 7.5	MF 945	complete
Kismet 7.5	MF 927	T9S R17E 25-28,33-36 T10S R17E 2-4,9-16,21-24,26-28,33-35 T11S R17E 2-4
Klinker Mtn. 7.5	P 457	E 117°35'30"
Klinker Mtn. 7.5	P 522	T28S R40E 13,24-25,36 T28S R41E 19,28-34 T29S R40E 6-7,18-19,30 T29S R41E 1-25 T29S R42E 5-8,17-20,29-30
Knights Landing 7.5	OF 79-583	complete
Knights Landing 15	OF 79-583	complete
Knob Hill 7.5	MF 944	complete
Knoxville 7.5	MF 483, sh. 4	T11N R4W 3-11,14-36 T11N R5W 1-2,11-14,23-26,35-36 T12N R4W 19,28-34 T12N R5W 23-26,35-36
Kramer 15	B 1098-B	complete
Kramer 15	P 522	complete
Kramer Hills 7.5	MF 226	complete
Kramer Hills 7.5	P 522	complete
Kramer Jct. 7.5	B 1089-B	complete
Kramer Jct. 7.5	P 522	complete
Kreyenhagen Hills 7.5	B 357	complete
Kreyenhagen Hills 7.5	B 398	complete
Kreyenhagen Hills 7.5	B 581-D	T21S R15E 2-5,8-17,20-24,26-29,32-35 T22S R15E 2-5,8-10,16-17,20
Kreyenhagen Hills 7.5	P 205-C	T22S R15E 21-22
Kyburz 7.5	GF 31	complete
La Cima 7.5	B 357	T21S R17E 34-36 T22S R17E 1-3,10-15,22-24 T22S R18E 4-22

La Cima 7.5	B 398	T21S R17E 34-36 T22S R17E 1-3,10-15,22-24 T22S R18E 4-22
La Cima 7.5	I 757	T21S R18E 26-28,32-35 T22S R17E 12-14,22-24 T22S R18E 2-11,14-23
La Cima 7.5	P 195	T21S R17E 26-27,34-36 T21S R18E 31 T22S R17E 1-3,10-15,22-24 T22S R18E 4-10,15-22
La Costa Valley 7.5	OF 80-533-A	complete
La Costa Valley 7.5	MF 343	T4S R1E 25,35-36 T4S R2E 15-16,20-22,27-34 T5S R1E 1-2,11-14 T5S R2E 3-10,15-18
La Costa Valley 7.5	MF 429	T3S R1E 33-36 ; T3S R2E 31-33 T4S R1E 1-4,9-16,21-24,27-28,33-34 T4S R2E 4-9,16-21 ; T5S R1E 3 (Sunol Valley and north of Hetch Hetchy Aquaduct)
La Costa Valley 7.5	P 943, pl. 1	Sunol V.; La Costa V.; Vallecitos V.
La Grange 7.5	GF 41	complete
La Habra 7.5	P 420-C	complete
La Habra 7.5	OM 23	T2S R10W 13-17,20-29,32-36
La Habra 7.5	OM 83	N 33°58' ; W 117°56'
La Honda 7.5	GF 163	complete
La Honda 7.5	MF 328	complete
La Honda 7.5	MF 575	complete
La Honda 7.5	OF 80-245	complete
La Liebre Ranch 7.5	P 522	complete
La Panza 7.5	B 406	complete
La Panza 7.5	I 757	complete
La Panza 15	I 757	complete
La Panza NE 7.5	I 757	complete
La Panza NE 7.5	B 406	N 35°19'30"
La Panza Ranch 7.5	I 757	complete
La Panza Ranch 7.5	B 406	E 120°09'
La Porte 7.5	GF 37	complete
Laguna Beach 7.5	OM 193	complete
Laguna Dam 7.5	GQ 1014	complete

Laguna Seca Ranch 7.5	B 603	complete
Laguna Seca Ranch 7.5	OF 75-394	complete
Lake Arrowhead 7.5	P 522	T2N R3W 5-7,18 ; T2N R4W 1,12-13 T3N R2W 6 ; T3N R3W 1-23,27-33 T3N R4W 1,12-13,24-25,36
Lake Berryessa 7.5	MF 484, sh. 4	complete
Lake Berryessa 7.5	OF 79-1606	complete
Lake Berryessa 15	MF 484, sh. 4	complete
Lake Berryessa 15	OF 79-1606	complete
Lake Cachuma 7.5	W 1107	T6N R30W 12
Lake Combie 7.5	GF 18	complete
Lake Havasu City South 7.5	P 486-J	Calif. area north of 34°24'30"
Lake Hughes 7.5	MF 79	complete
Lake Hughes 7.5	P 522	complete
Lake Shastina 15 (formerly Dwinnell Res. 15)	W 1484	complete
Lamoine 15	GF 138	complete
Lamoine 15	P 338	T34N R2W 4-5,7-36; T34N R3W 7,18-19, 30-31
Lamont 7.5	OF 76-592	complete
Lamont 7.5	W 1656, pl. 3	complete
Lamont 7.5	MF 944	T29S R28E 25-29,32-34 T29S R29E 28-33 T30S R28E 1 ; T30S R29E 4-9
Lancaster 15	MF 76	complete
Lancaster 15	P 522	complete
Lancaster East 7.5	MF 76	complete
Lancaster East 7.5	P 522	complete
Lancaster West 7.5	MF 76	complete
Lancaster West 7.5	P 522	complete
Lancaster West 7.5	MF 766	T6N R13W 3,10-11 (Portal Ridge)
Lancaster West 7.5	P 1039	T6N R13W 3,10-11 (Portal Ridge)
Landers 7.5	I 490	complete
Lane Mountain 15	W 1460-F	T11N R1E 1-36 T11N R2E 3-10,15-22,27-34 T11N R1W 1-2,11-14,23-26,35-36 T12N R1E 1-36 T12N R1W 9-10,15-16,21-22,27-28,33-36 T12N R2E 3-10,15-22,27-34 T13N R2E 3-10,15-22,27-34
Lanes Bridge 7.5	MF 945	complete

Las Trampas Ridge 7.5	GF 193	complete
Las Trampas Ridge 7.5	OF 80-545	complete
Las Trampas Ridge 7.5	P 943, pl. 1	San Ramon V.; Stone V.; Tice V.; Burton V.; Moraga V.
Las Yeguas Ranch 7.5	B 406	complete
Las Yeguas Ranch 7.5	I 757	complete
Las Yeguas Ranch 7.5	OF 77-611	complete
Las Yeguas Ranch 7.5	B 721	T28S R18E 13 ; T28S R19E 13-29,35-36
Last Chance Range 15	I 506	complete
Latrobe 7.5	GF 3	complete
Latrobe 7.5	P 827	T8N R9E 36 T8N R10E 20-21,28-33 (Amador County [south of Cosumnes River] east of 120°56')
Laurel 7.5	OF 78-84	complete
Lavic 15	I 472	complete
Lavic Lake 7.5	I 472	complete
Lavic Lake 7.5	MF 205	complete
Lavic SE 7.5	I 472	complete
Laytonville 7.5	W 1548, pl. 5	T21N R14W 6-7,17-21,28-33 T21N R15W 1-2,11-14,23-26,36
Le Grand 7.5	MF 945	complete
Le Grand 7.5	MF 927	S 37°12'40" (Dutchman Creek)
Le Grand 15	MF 927	T8S R16E 25-28,32-36 T8S R17E 21-22,26-36 ; T8S R18E 31 T9S R16E 1-5,8-17,20-29,32-36 T9S R17E 1-36 T9S R18E 6-8,16-21 T10S R16E 1-5,8-17,20-29,32-36 T10S R17E 2-24,26-35 ; T11S R16E 1-5 T11S R17E 2-6
Le Grand 15	MF 945	excl. NE 1/8
Lead Mtn. 7.5	MF 205	complete
Lead Mtn. 15	MF 205	complete
Lead Mtn. NE 7.5	MF 205	complete
Lead Mtn. SW 7.5	MF 205	complete
Lebec 7.5	P 522	complete
Leuhman Ridge 7.5	B 1098-B	complete
Levis 7.5	B 603	S 36°34'
Liberty Island 7.5	W 1464	complete
Liberty Island 7.5	P 943, pl. 2	W 121 41'30" (Shag Slough) E Sacramento River, within Yolo Co.

Lick Observatory 7.5	MF 335	two lowland areas in west Yerba Buena Land Grant, from ca. 37°17' to 37°18' N.Lat., 121°44'30" to 121°45'
Lick Observatory 7.5	MF 343	T6S R2E 1-3 ; T6S R3E 31-34 T7S R2E 1-2,11-13 T7S R3E 3-10,15-22,27-30,32-34 T8S R3E 3-5,9-10
Lick Observatory 7.5	P 943, pl. 1	lowlands in SW ¼ of quad. Halls V. ; San Felipe V.
Liebre Mtn. 7.5	P 522	T7N R17W 1-36 T7N R18W 1-2,13-14,23-24 T8N R17W 25-36 T8N R18W 25-26,35-36
Liebre Twins 7.5	P 522	T9N R15W 5-8 T9N R16W 1-12 T10N R15W 5-8,17-20,29-32 T10N R16W 1-2,7-36 ; T11N R15W 31
Lillis Ranch 7.5	B 603	complete
Lime Mtn. 7.5	P 646-B	complete
Lime Mtn. 7.5	OM 24	T25S R9E 21-28,34-36 T25S R10E 19-22,27-34 T26S R9E 1-2,12 T26S R10E 3-10,15-17,20-22,27-28
Lime Mtn. 7.5	P 819	NE ½
Lincoln 7.5	GF 5	complete
Lincoln 7.5	OF 79-583	complete
Lincoln 15	GF 5	complete
Lincoln 15	OF 79-583	complete
Linden 7.5	OF 79-664	complete
Lion Canyon 7.5	OF 79-1464	complete
Lion Canyon 7.5	I 752	N 34°35'
Little Buttes 7.5	P 522	complete
Little Lake 15	W 2007	complete
Little Pine Mtn. 7.5	I 487	N 34°36'30" ; W 119°40'30"
Little Table Mtn. 7.5	MF 945	T10S R19E 11-14,23-26,35-36 T10S R20E 18-21,26-35 T11S R19E 1-2 ; T11S R20E 2-6
Littlerock 7.5	P 522	complete
Livermore 7.5	MF 429	complete
Livermore 7.5	OF 80-533-B	complete
Livermore 7.5	P 943, pl. 1	Livermore V.; Amador V.; lowlands N 37°42'30" ; E 121°47'

Llanada 7.5	B 603	T15S R9E 13-14,23-26 T15S R10E 16-21,28-33
Lockwood Valley 7.5	OF 79-1464	complete
Lodi 15	OF 79-933	complete
Lodi North 7.5	OF 79-933	complete
Lodi South 7.5	OF 79-933	complete
Lodoga 15	OM 210	complete
Logan Ridge 7.5	OM 210	complete
Lokern 7.5	I 757	T29S R22E 4-10,14-29 T29S R23E 19-20,28-30
Loma Prieta 7.5	OF 80-849	complete
Loma Prieta 7.5	MF 648	S 37°00'45"
Loma Rica 7.5	GF 18	complete
Lompoc 7.5	B 322	complete
Lompoc 7.5	OM 14	N 34°40'
Lompoc 7.5	P 222	N 34°40'
Lompoc 7.5	W 1107	S 34°43'
Lompoc 7.5	W 1664	T7N R33W 5-6 ; T8N R33W 29-32 T8N R34W 25-30,34-36 (primarily the Purisma Hills)
Lompoc 15	B 322	complete
Lompoc Hills 7.5	B 322	complete
Lompoc Hills 7.5	W 1107	N 34°36'
Lone Butte 7.5	W 2007	complete
Lone Pine 15	I 506	complete
Lone Pine 15	P 110	complete
Lone Pine 15	P 438, pl. 1 (sh. 3)	complete
Lone Tree Creek 7.5	MF 343	complete
Lone Tree Creek 7.5	B 603	complete
Long Barn 15	GF 51	complete
Long Beach 7.5	W 1461	W 118°12'
Longvale 7.5	W 1548, pl. 5	T20N R14W 5-6 T20N R15W 1 T21N R14W 31-33 ; T21N R15W 36
Lonoak 7.5	B 581-D	complete
Lonoak 7.5	OF 69-16	complete
Lonoak 7.5	OM 24	T18S R9E 21,27-28,33-35 T19S R9E 1-4,9-16,21-28 T19S R10E 19-20,29-30

Lonoak 7.5	P 819	SW $\frac{1}{2}$
Loon Lake 7.5	GF 31	complete
Lopez Mtn. 7.5	GF 101	complete
Lopez Mtn. 7.5	MF 686	complete
Lopez Mtn. 7.5	OF 74-223	complete
Lopez Mtn. 7.5	I 757	T29S R13E 25-36 ; T29S R14E 29-32 T30S R13E 1-4,10-14,24 T30S R14E 5-8,17-20,29-30,32
Lopez Mtn. 7.5	I 1097, sh. 3	T30S R13E 7,17-20,27-35 T31S R13E 1-6
Lopez Point 7.5	MF 750	complete
Los Alamos 7.5	B 322	complete
Los Alamos 7.5	OM 14	N 34°40'
Los Alamos 7.5	OM 26	T6N R32W 4-6; T6N R33W 1-4 T7N R32W 4-9,16-21,28-33 T7N R33W 12-14,23-27,34-36 T8N R32W 29-33
Los Alamos 7.5	P 222	N 34°40'
Los Alamos 7.5	W 1107	S 34°43'
Los Alamos 7.5	W 1664	T7N R32W 4-9,16-18 T7N R33W 1-5,10-12 T8N R32W 19-21,28-33 T8N R33W 25-29,32-36 (primarily the Purisma Hills and northward)
Los Banos Valley 7.5	OF 75-394	complete
Los Banos Valley 7.5	B 603	T11S R8E 8-17,20-27,35-36 T11S R9E 5-8,17-20,29-32 T12S R8E 1 ; T12S R9E 5-6,8,17
Los Gatos 7.5	OF 78-453	complete
Los Gatos 7.5	MF 335	T8S R1E 7-8,17-20; T8S R1W 8-17,20-22
Los Gatos 7.5	MF 643	T8S R1W 17,20-21
Los Gatos 7.5	P 943, pl. 1	urbanized lowlands east of Los Gatos Creek in N $\frac{1}{2}$ of quad.
Los Machos Hills 7.5	I 757	complete
Los Olivos 7.5	B 322	complete
Los Olivos 7.5	W 1107	excl. T8N R31W 26,35
Los Viejos 7.5	B 357	W 119°55'
Los Viejos 7.5	B 398	W 119°55'
Los Viejos 7.5	I 757	excl. T22S R19E 22-27,35-36 T23S R19E 1-2,11-13,24

Los Viejos 7.5	P 195	T22S R18E 23-26,35-36 T22S R19E 19-30-32 T23S R18E 1-2,11-14,23-26,35-36 T23S R19E 5-8,16-22,27-35
Lost Hills 7.5	B 721	W 119°40'
Lost Hills 7.5	I 757	T26S R21E 31-35 T27S R21E 2-11,14-23,26-36 T28S R21E 1-12
Lost Hills NW 7.5	I 757	T25S R21E 30-32 T26S R21E 5-9,16-22,26-35
Lovejoy Buttes 7.5	P 522	complete
Lowrey 7.5	MF 516	complete
Lucerne Valley 7.5	I 426	complete
Lucerne Valley 15	I 426	complete
Ludlow 7.5	I 477	complete
Ludlow 7.5	MF 205	complete
Ludlow 15	I 477	complete
Ludlow 15	MF 205	complete
Ludlow SE 7.5	I 477	complete
Ludlow SE 7.5	MF 205	complete
MacDoe1 15	W 1491	E 122°10'
Madison 7.5	OF 1606	complete
Madulce Peak 7.5	I 752	complete
Madulce Peak 7.5	I 487	W 119°34'
Madulce Peak 7.5	I 757	N 34°42'30" ; W 119°36' ; NW 1/8)
Madera 7.5	MF 945	complete
Madera 15	MF 945	N ½
Magruder Mtn. 15	I 506	complete
Magruder Mtn. 15	B 1251-H	N 37°21' ; W Inyo Co. (Calif.) bd.
Malibu Beach 7.5	B 1457-E	T1S R17W 22,27 (pl. C) T1S R17W 15-16,21-22 (pl. D) T1N R17W 34-35 T1S R17N 2-3 (pl. F) T1S R18W 23 (pl. J) T1N R17W 33 (pl. K) T1S R17W 4
Manor Slough 7.5	I 538	complete
Manzanita Lake 15	GQ 248	complete
Manzanita Mtn. 7.5	B 322	complete
Manzanita Mtn. 7.5	I 757	NE ½

Mare Island 7.5	MF 484, sh. 2	complete
Mare Island 7.5	P 943, pl. 2	Mare Island
Maricopa 7.5	B 406	complete
Maricopa 7.5	I 757	complete
Maricopa 7.5	P 116	complete
Maricopa 7.5	W 1656, pl. 3	excl. T11N R24W 6-7,18-19,30-32 T11N R25W 1,12-13,24-25,36
Marina 7.5	MF 1199	complete
Mariposa Peak 7.5	OF 75-394	complete
Mariposa Peak 7.5	MF 343	T11S R7E 7-10,15-21,29-31
Marion Peak 15	GQ 1399	complete
Mark West Springs 7.5	MF 483, sh. 3	complete
Mark West Springs 7.5	P 943, pl. 1	Knights Valley
Mark West Springs 7.5	W 1427	T8N R7W 18-19,30 T8N R8W 2-4,9-16,21-28,33-36 T9N R8W 27-28,33-34
Martis Peak 7.5	GF 39	complete
Marysville 15	GF 17	complete
McDonald Peak 7.5	P 522	T7N R19W 3 T8N R19W 27-30,32-34
McFarland 7.5	MF 944	T25S R26E 13-14,23-27,34-36 T26S R26E 1-4,9-17,20-29,31-36
McKittrick Summit 7.5	B 406	complete
McKittrick Summit 7.5	I 757	complete
McKittrick Summit 7.5	B 721	T29S R20E 25-28,33-36 T29S R21E 30-31
Meadow Valley 7.5	GF 43	complete
Meadow Valley 7.5	P 731, pl. 1,3	complete
Meeks Bay 7.5	GF 39	complete
Melones Dam 7.5	GF 63	T1N R13E 1-2 ; T2N R13E 25-27,35-36
Melville Lake 7.5	I 518	complete
Mendenhall 7.5	MF 343	complete
Mendenhall Springs 7.5	MF 343	T3S R3E 32-34 T4S R2E 22-23,25-27,34-36 T4S R3E 3-5,8-10,15-17,20-22,27-34 T5S R2E 1-3,10-15 T5S R3E 2-11,15-18 excl. Lake del Valle area
Mendenhall Springs 7.5	MF 429	T3S R2E 34-36 ; T3S R3E 31 T4S R2E 1-3,11-13 ; T4S R3E 6-7,18-19 (Lake del Valle and northward)

Merced 7.5	MF 945	complete
Merced 15	MF 945	complete
Merced Falls 7.5	GF 41	complete
Merced Falls 15	GF 41	complete
Merced Peak 15	GQ 1531	complete
Merced Peak 15	MF 281	complete
Merced Peak 15	P 1154	T4S R24E 25,36 Strawberry Tungsten Mine roof
Mercy Hot Springs 7.5	B 603	complete
Meridian 7.5	GF 17	complete
Merritt 7.5	MF 484, sh. 4	complete
Merritt 7.5	OF 79-1606	complete
Merritt 7.5	W 1464	complete
Merritt 7.5	P 943, pl. 2	Solano Co.
Mescal Creek 7.5	P 522	complete
Mettler 7.5	W 1656, pl. 3	complete
Mettler 7.5	P 116	S 35°05'30" ; W 118°54'30"
Michigan Bluff 7.5	GF 66	complete
Michigan Bluff 7.5	MF 1177-A	T14N R11E 3-4 T15N R11E 21-28,33-36 T15N R12E 19-22,27-32
Midway 7.5	OF 80-535	complete
Midway 7.5	MF 343	T3S R3E 34-36 ; T3S R4E 31-32
Miles 7.5	MF 80-533-C	complete
Millerton Lake West 7.5	MF 945	S 37°02' ; W 119°42'30"
Milligan 15	MF 205	T2N R17E 4-18 ; R3N R17E 30-32
Millux 7.5	W 1656, pl. 3	complete
Millux 7.5	B 812-D	S 35°06'
Millux 7.5	P 116	T31S R25E 12-13,24-25,36 T31S R26E 18-36 T32S R25E 1,12-13,24; T32S R26E 1-24
Millville 15	GF 138	complete
Millville 15	P 338	T33N R2W 1-5,8-12,14-17
Milpitas 7.5	MF 335	S 37°27'30" but excl. salt evaporators
Milpitas 7.5	MF 429	T5S R1E 18-19,30; T5S R1W 13-17,21-25,36
Milpitas 7.5	P 943, pl. 1	excl. uplands in NE ¼ of quad., west of Hwy 680

Mindego Hill 7.5	GF 163	complete
Mindego Hill 7.5	MF 328	T6S R3W 31-33 ; T6S R4W 36 T7S R3W 4-10,15-23,26-35 T7S R4W 1,12-13,24-25,36 T8S R3W 2-11 ; T8S R4W 1,12 (San Mateo Co.)
Mindego Hill 7.5	MF 335	T6S R2W 31 ; T6S R3W 36 (east of Junipero Freeway)
Mindego Hill 7.5	MF 575	San Mateo Co.
Minneola 7.5	I 592	complete
Mint Canyon 7.5	OM 196	S 34°27' ; W 118°28'
Mint Canyon 7.5	P 334-H	T3N R15W 5-6; T4N R15W 7-8,17-20,29-32
Miranda Pine 7.5	I 757	complete
Mississippi Creek 7.5	MF 343	excl. T8S R5E 10-15,23-26,36 T9S R4E 23,26
Mississippi Creek 7.5	MF 416	Santa Clara Co.
Moccasin 7.5	GF 41	complete
Moccasin 7.5	MF 840	complete
Moccasin 7.5	GF 63	T1S R15E 4-10,14-23,25-36 T1S R16E 31; R2S R15E 1-6,8-16,21-24 T2S R16E 6-7,18-19
Mojave 7.5	MF 219	complete
Mojave 7.5	P 522	complete
Mojave 15	MF 219	complete
Mojave 15	P 522	complete
Mojave NE 7.5	MF 219	complete
Mojave NE 7.5	P 522	complete
Mokelumne Hill 7.5	GF 11	complete
Mokelumne Hill 7.5	GF 63	T5N R11E 1-3,10-15,22-27 T5N R12E 5-8,16-22,27-30 T6N R11E 14-15,22-27,34-36 T6N R12E 31
Mokelumne Hill 15	GF 11	complete
Monache Mtn. 15	P 110	E 118°13'50"
Monache Mtn. 15	P 438, pl. 1 (sh. 3)	east portion of quad. ranging from 118°W long. at 36°N lat. to 118°05' W long. at 36°15' N lat.
Monarch Peak 7.5	B 581-D	complete
Monarch Peak 7.5	OM 24	T19S R10E 27,33-36 T20S R10E 1-3,10-15,22-27,34-36 T20S R11E 18-20,28-35 T21S R10E 1-3 ; T21S R11E 2-6

Monarch Peak 7.5	P 819	SW $\frac{1}{2}$
Mono Craters 15	GQ 462	complete
Mono Craters 15	P 438, pl. 1 (sh. 1)	west of Lee Vining Peak, Gibbs Lake, Walker Lake, Parker Lake, Silver Lakes; excl. area south of Silver Lakes and Gull Lake
Mono Craters 15	P 1044-A	S 37°48'15" ; E 119°05'40"
Monocline Ridge 7.5	B 603	complete
Monocline Ridge 7.5	OF 75-394	complete
Monocline Ridge 7.5	OM 128	T15S R12E 25,36 ; T16S R12E 1
Monolith 7.5	I 607	complete
Monolith 7.5	P 522	complete
Montara Mtn. 7.5	GF 193	complete
Montara Mtn. 7.5	MF 328	complete
Montara Mtn. 7.5	MF 575	complete
Montara Mtn. 7.5	MF 652	San Andreas Lake and shore
Monterey 7.5	MF 577	complete
Monterey 7.5	MF 750	complete
Monterey 15	MF 750	S 36°38'45"
Monticello Dam 7.5	MF 484, sh. 4	complete
Monticello Dam 7.5	OF 79-1606	complete
Monticello Dam 7.5	W 1464	complete
Montpelier 7.5	OF 80-607	complete
Monument Peak 7.5	OF 78-697	complete
Monumental Pass 7.5	P 486-J	T7N R22E 1-4,10-14,23-25 T8N R22E 33-36
Moonlight Peak 7.5	B 353	S 40°10'50"
Moonridge 7.5	I 431	complete
Moonridge 7.5	MF 1161-A	T1N R1E 23-27,34-36; T1N R2E 19,29-33 (San Geronio Wilderness)
Mooreville Ridge 15	GF 43	complete
Moorpark 7.5	OF 76-210	complete
Moorpark 7.5	B 309	N 34°20'
Morgan Hill 7.5	MF 335	T8S R2E 13-14,22-24,26-27,34-36 T8S R3E 17-21,27-30,32-34 T9S R2E 1-3,11-12 T9S R3E 4,6-10,15-22,27-29 (Santa Clara Valley and Canada de San Felipe y Las Animas Land Grant)

Morgan Hill 7.5	MF 416	east of old Hwy 101
Morgan Hill 7.5	P 943, pl. 1	lowlands incl. Santa Clara V., Paradise V., Hayes V., Uvas Creek V., Little Arthur Creek V., Bodfish Creek V.
Morgans Well 7.5	I 477	complete
Morgans Well 7.5	MF 205	complete
Morongo Valley 7.5	I 517	complete
Morongo Valley 15	I 517	complete
Morro Bay North 7.5	GF 101	complete
Morro Bay North 7.5	MF 686	complete
Morro Bay North 7.5	I 1097, sh. 2	excl. T28S R11E 14-23,26-30,33-35 T29S R11E 1-2 (primarily north and east of Dark Range Peak & Dusty P.)
Morro Bay South 7.5	GF 101	complete
Morro Bay South 7.5	I 1097, sh. 3	complete
Morro Bay South 7.5	MF 511	complete
Moss Landing 7.5	MF 1199	complete
Moss Landing 7.5	MF 648	west of Pajaro R. (Santa Cruz Co.)
Mt. Abbot 15	GQ 1155	complete
Mt. Adelaide 7.5	MF 944	T28S R30E 21,27-28,33-35 T29S R30E 1-3,10-15,22-27 T29S R31E 6-9,15-23,26-30
Mt. Adelaide 7.5	W 1656, pl. 3	T28S R30E 34-35 T29S R30E 2-3,10-11,13-15,22-27 T29S R31E 19-20,28-30
Mt. Barcroft 15	GQ 960	complete
Mt. Barcroft 15	P 438, pl. 1 (sh. 1)	W 118°10'
Mt. Barcroft 15	P 800-B/pl. 97	N 37°36' ; W 118°13'30"
Mt. Boardman 7.5	MF 343	T5S R4E 13-14,23-26,35-36 T5S R5E 18-19,30-32 T6S R4E 1-2,11-14,23-26,35-36 T6S R5E 5-9,16-21,28-34
Mt. Carmel 7.5	MF 750	complete
Mt. Day 7.5	MF 343	complete
Mt. Dome 15	W 1491	W 41°45'
Mt. Fillmore 7.5	GF 37	complete
Mt. George 7.5	MF 484, sh. 3	complete
Mt. George 7.5	W 1495	S 38°21' ; W 122°10'

Mt. Goddard 15	P 110	T8S R30E 23-25,36 ; T8S R31E 19-36 T8S R32E 19,30-31 T9S R31E 1-5,9-15,24-25,36 T9S R32E 5-8,17-20,29-32
Mt. Goddard 15	P 438, pl. 1	T8S R30E 13-14,23-26,36; T8S R31E 13-36 T8S R32E 18-19,30-31 T9S R31E 1-6,8-16,21-27,35-36 T9S R32E 5-8,17-20,29-32; T10S R31E 36 T10S R32E 5-8,17-18
Mt. Goddard 15	P 470	T8S R29E 13,24-25 T8S R30E 13-30,32,34-36; T8S R31E 13-36 T8S R32E 18-19,30-31 T9S R30E 1-2,12-14,24-25 T9S R31E 1-30,34-36 T9S R32E 5-8,17-20,29-32; T10S R31E 1-2 T10S R32E 5-8,17-18
Mt. Goddard 15	GQ 429	complete
Mt. Ingalls 7.5	GF 37	complete
Mt. Laguna 7.5	OF 79-862	complete
Mt. Madonna 7.5	MF 335	Floodplains of the valleys west of Chesbro and Uvas Reservoirs, including the Bodfish, Little Arthur and Uvas Creek floodplains, and the Hayes, Paradise and Santa Clara Valleys. Excludes intermittent uplands within floodplains
Mt. Madonna 7.5	MF 416	east of old Hwy 101
Mt. Madonna 7.5	P 943, pl. 1	Santa Clara V.; Shingle V.; Animas Creek V.
Mt. Manchester 7.5	P 486-J	Calif. area, excl. T11N R21E 6-7,18 T12N R21E 30-31
Mt. Mesa 7.5	P 522	complete
Mt. Morrison 15	P 385	complete
Mt. Morrison 15	P 438, pl. 1 (sh. 1)	excl. Cascade V. and westward in SW portion of quad.
Mt. Morrison 15	P 438, pl. 2	complete
Mt. Morrison 15	P 1044-A	excl. Fresno Co. (SW 1/8 of quad.)
Mt. Pinchot 15	B 1130	complete
Mt. Pinchot 15	P 110	E 118°
Mt. Pinchot 15	P 438, pl. 1 (sh. 3)	Inyo Co. (E ½ of quad.)
Mt. St. Helena 7.5	MF 483, sh. 3	excl. T10N R7W 3-6,8-10
Mt. St. Helena 7.5	P 943, pl. 1	Knights V.
Mt. San Antonio 7.5	P 522	T2N R7W 5-8,17; T2N R8W 1-4,11-12 T3N R7W 5-8,17-20,29-32 T3N R8W 1-36

Mt. Sizer 7.5	MF 416	complete
Mt. Sizer 7.5	MF 335	T9S R3E 2-3,10-12,15,22-27 T9S R4E 19,30
Mt. Sizer 7.5	MF 343	T8S R3E 11-14,23-25 T8S R4E 7-11,14-23,26-35 T9S R4E 2-5,9-11,14-15
Mt. Stakes 7.5	MF 343	T6S R4E 35-36 ; T6S R5E 31-35 T7S R4E 1-2,11-14,23-26,35-36 T7S R5E 2-11,15-22,28-33 T8S R4E 1-2,11-12 ; T8S R5E 4-9
Mt. Tamalpais 15	GF 193	complete
Mt. Tamalpais 15	MF 574	complete
Mt. Tom 15	P 110	T5S R32E 31 ; T6S R31E 13,23-29,32-36 T6S R32E 6-7,18-19,30-31 T7S R30E 25,36; T7S R31E 1-36 T7S R32E 6-7,18-19,30-31 T8S R30E 1,12-13 ; T8S R31E 1-18 T8S R32E 6-7,18
Mt. Tom 15	P 438, pl. 1 (sh. 2)	excl. Fresno Co. and vicinities of Honeymoon, Pine, Morgan and Hidden Lakes north of Fresno Co.
Mt. Tom 15	P 438, pl. 2	N 37°30' ; E 118°40'
Mt. Tom 15	P 470	complete
Mt. Vaca 7.5	MF 484, sh. 3	complete
Mt. Vaca 7.5	W 1464	complete
Mt. Vaca 15	MF 484, sh. 3	complete
Mt. Whitney 15	P 110	primarily Inyo Co.
Mt. Whitney 15	P 438, pl. 1 (sh. 3)	E 118°20'
Mountain Springs Canyon 15	W 2007	complete
Mountain View 7.5	GF 163	complete
Mountain View 7.5	MF 335	S 37°26' (south of San Francisco Bay and salt evaporators)
Mountain View 7.5	P 943, pl. 1	excl. Los Altos Hills
Mouth of Kern 7.5	P 116	complete
Mouth of Kern 7.5	W 1656, pl. 3	complete
Mouth of Kern 7.5	B 835	T31S R24E 11-14; T31S R25E 7-8,18
Mouth of Kern 7.5	I 757	W 119°17'
Mouth of Kern 7.5	P 912, pl. 3	T31S R24E 11-14; T31S R25E 7-8,18 (Elk Hills)
Muroc 7.5	P 522	complete
Murphys 7.5	GF 51	complete

Mustang Peak 7.5	MF 416	Santa Clara Co.
Mustang Peak 7.5	MF 343	T9S R6E 2,6-30 (Santa Clara County)
Napa 7.5	MF 483, sh. 2	complete
Napa 7.5	W 1495	complete
Napa 7.5	P 943, pl. 2	Napa V.
Natividad 7.5	MF 1199	complete
Natividad 7.5	MF 357	NE ½ of quad.
Nattrass Valley 7.5	OM 24	complete
Nattrass Valley 7.5	P 819	complete
Nattrass Valley 7.5	B 581-D	N 36°10'
Nebo 7.5	I 592	complete
Needles 7.5	P 486-J	Calif. area
Needles NW 7.5	P 486-J	Calif. area
Needles SW 7.5	P 486-J	excl. T8N R21E 13,24-25; T8N R22E 19,30
Neenach School 7.5	P 522	complete
Nevada City 7.5	GF 18	complete
Nevada City 7.5	GF 29	T16N R8E 1-3,10-15; T16N R9E 6-7,18
Nevada City 15	GF 18	complete
New Cuyama 7.5	I 757	complete
New Cuyama 7.5	I 876	complete
New Cuyama 7.5	B 621-M	S 34°58'30"
New Cuyama 7.5	OM 217	N 34°56'45"
New Hope 7.5	OF 79-933	complete
New York Butte 15	I 506	complete
New York Butte 15	P 110	complete
New York Butte 15	P 408	S 36°36'10" ; W 117°45'30" E 117°49'45" (pl. 1) S ½ of quad. (pl. 2) (excl. Owens V.)
New York Butte 15	P 438, pl. 1 (sh. 3)	complete
Newark 7.5	GF 193	complete
Newark 7.5	MF 429	E 122°05' excl. mountainous area east of Hayward
Newark 7.5	P 943, pl. 1	excl. uplands in NE 1/8, north of Mission Blvd.
Newberry 15	I 461	complete
Newberry 15	MF 205	E 116°36'

Newhall 7.5	OF 76-211	complete
Newhall 7.5	B 309	T4N R16W 7-10,15-22,27-36 T4N R17W 12-13,24-25,36
Newhall 7.5	OM 196	S 34°27'
Newhall 7.5	P 334-H	S 34°27'
Newman 7.5	B 603	W 121°03'30"
Newport Beach 7.5	OM 193	S 33°41'30" ; E 117°55'
Nicolaus 7.5	OF 79-583	complete
Niles 7.5	MF 429	T3S R1E 32; T4S R1E 5,8,17,20 T4S R1W 15-17,20-23,25-29,32-36 T5S R1W 1-5,8-17; T5S R1E 6-7,18
Niles 7.5	P 943, pl. 1	T4S R1W 17,20-22,26-29,32-36 T4S R1E 8,17,20; T5S R1W 3-5,8-11,13-17
Norden 7.5	GF 39	complete
Norden 7.5	MF 1177-A	T16N R14E 1-2,11-14 T16N R15E 3-5,8-10 T17N R14E 12-14,23-26,35-36 T17N R15E 8,17,20-21,28-34
North Bloomfield 7.5	GF 66	complete
North Bloomfield 7.5	GF 29	T16N R9E 3-5,8-10,15-17
North Chalone Peak 7.5	MF 357	excl. T16S R7E 34-35; T16S R8E 31-32 T17S R7E 2-3,10-11,14-15,22-23 T17S R8E 5
North Chalone Peak 7.5	OM 24	T17S R7E 25-28,31-36; T17S R8E 31 T18S R7E 1-12 ; T18S R8E 5-8
North of Oildale 7.5	MF 944	complete
Novato 7.5	MF 574	complete
Novato 7.5	P 943, pl. 2	lowlands, incl. Novato V., San Jose Cr. V., Gallinas V., Santa Mar- garita V., Sleepy Hollow
Novato 7.5	W 1427	N 38°04'
Oakland East 7.5	GF 193	complete
Oakland East 7.5	GQ 769	complete
Oakland East 7.5	MF 429	incl. urbanized area of Berkeley, Piedmont, Oakland, Alameda excl. Piedmont north of Diamond Can- yon & west of Mountain View Cemetary Northeast Oakland south of Diamond Canyon to Lincoln Ave. and area east of Wisconsin Ave. extending southward to junction of MacArthur Frwy. and Warren Frwy.

Oakland East 7.5	P 943, pl. 1	urbanized area primarily west of MacArthur and Warren Freeways, but excl. eastern half of city of Piedmont Also includes Moraga Valley
Oakland West 7.5	GF 193	complete
Oakland West 7.5	I 239	complete
Oakland West 7.5	P 943, pl. 1	complete
Oakland West 7.5	MF 429	incl. urbanized area north of 37°47'30", east of 122°18' (Berkeley, Emeryville, Oakland) Alameda urbanized area excl. Oakland Naval Supply Center, Oakland Army Terminal, Alameda Naval Air Station and Naval Res. north & east portion of UC Berkeley campus
Oakland West 7.5	MF 574	excl. west of Berkeley High Sch. and S of Univ. Calif. to Technical H.S.
Oat Mtn. 7.5	OF 76-211	complete
Oat Mtn. 7.5	B 309	N 34°20'
Oat Mtn. 7.5	OM 196	N 34°19'
Oat Mtn. 7.5	P 334-H	T3N R16W 1-28 ; T3N R17W 1,12-13,24
Oceano 7.5	GF 101	complete
Oil Center 7.5	MF 944	complete
Oil Center 7.5	OF 76-592	complete
Oil Center 7.5	W 1656, pl. 3	S 35°28'
Oildale 7.5	MF 944	T28S R26E 13,24-25,36 T28S R27E 13-36; T28S R28E 18-19,30-31 T29S R27E 1-16,24; T29S R28E 30
Oildale 7.5	W 1656, pl. 3	S 35°28' ; E 119°02'30"
Oiler Peak 7.5	MF 944	T29S R31E 25-26,35-36; T29S R32E 31 T30S R31E 1-2,11-14,23-26,35-36 T30S R32E 5-8,17-20,29-32 T31S R31E 1-2,11-12; T31S R32E 5-8
Oiler Peak 7.5	W 1656, pl. 3	S 35°19'40" ; W 118°35'20"
Ojai 7.5	B 309	complete
Ojai 7.5	OF 76-212	complete
Olanche 15	P 110	excl. T17S R34E 1,12-13,24-25,36 T17S R35E 18-19,29-33 T18S R34E 1,12-13,24-25,36 T18S R35E 4-9,16-21,28-30
Olanche 15	P 438, pl. 1 (sh. 3)	primarily Inyo Co.

Old Dad Mtn. 15	MF 205	S 35°02'
Old Man Mtn. 7.5	I 752	N 34°35'
Old Woman Springs 7.5	I 518	complete
Old Woman Springs 15	I 518	complete
Olivehurst 7.5	GF 17	complete
Omo Ranch 7.5	GF 3	complete
Onion Valley 7.5	GF 37	complete
Onyx Peak 7.5	I 517	complete
Opal Mtn. 15	P 522	T31S R44E 13-15,22-27,34-36 T31S R45E 19,28-34 T32S R44E 1-3,10-15,22-27,34-36 T32S R45E 1-36 ; T32S R46E 16-22,25-36 T11N R1W 5-8,17-20,29-32 T11N R2W 1-36 ; T11N R3W 1-36 T11N R4W 1,12-13,24-25,36 T12N R1W 31-32; T12N R2W 31-36 T12N R3W 31-36; T12N R4W 36
Orange 7.5	OM 154	complete
Orchard Peak 7.5	I 757	complete
Orchard Peak 7.5	I 788	complete
Orchard Peak 7.5	P 646-C	complete
Orchard Peak 7.5	P 1082	complete
Orchard Peak 7.5	B 406	E 120°13'
Orchard Peak 7.5	B 721	E 120°12'30"
Orchard Peak 15	P 1082	excl. T27S R16E 4,9-10,14-16,21-28,33-36 T27S R17E 30-31 T28S R16E 1-4,9-12; T28S R17E 5-9
Orchard Peak 15	I 757	complete
Orchard Peak 15	I 788	complete
Orchard Peak 15	P 646-C	complete
Orcutt 7.5	B 322	complete
Orcutt 7.5	OM 14	complete
Orcutt 7.5	P 222	complete
Orcutt 7.5	W 1664	S 34°50'50"
Ord Mountains 15	I 427	complete
Oregon House 7.5	GF 18	complete
Orestimba Peak 7.5	B 603	complete
Oroville Dam 7.5	GF 43	complete
Ortigalita Peak 7.5	OF 75-394	complete
Ortigalita Peak 7.5	B 603	E 120°57'30"

A VERY SELECT LISTING OF RESOURCES FOR MAP LIBRARIANSHIP
INCLUDING ARTICLES ON RECENT DEVELOPMENTS

by

Constance M. Piquette*

COMPREHENSIVE HANDBOOK OF MAP LIBRARIANSHIP

Larsgaard, Mary. *Map Librarianship; an Introduction*. Littleton, Colorado : Libraries Unlimited, Inc., 1978.

CATALOGING REFERENCE

Anglo-American Cataloguing Rules. Second Edition. Edited by Michael Gorman and Paul W. Winkler. American Library Association, Chicago; Canadian Library Association, Ottawa, 1978.

Especially Part I., Chapter 3. pp. 83-109. "Cartographic Materials."

CLASSIFICATION REFERENCE

Library of Congress Classification, Class G : Geography, Maps, Anthropology, Recreation. Fourth Edition. Washington : Library of Congress, 1976.

GEOGRAPHIC NAMES IN SUBJECT HEADINGS -- LC CURRENT PRACTICE

Chan, Lois Mai. *Library of Congress Subject Headings : Principles and Application*. Littleton, Colorado : Libraries Unlimited, Inc., 1978.

-Chapt. 4 - "Geographic Subdivision", pp. 65-69.

-Chapt. 6 - "Geographic Names", pp. 119-138.

MAP CATALOGUING MANUALS

Anglo-American Cataloguing Committee for Cartographic Materials. *Draft Manual*. Ottawa : The Secretariat, May 1980.

-Policies and examples to serve as a starting point for adherence to AACR 2 map cataloging, pending issuance of rule interpretations by the Library of Congress.

{EDITOR'S NOTE: The *Draft Manual* is an unpublished work, distributed to Members of the Committee for their use in preparing the final work. According to the June 19, 1981 LC Information Bulletin, the title of

* Constance M. Piquette is Library Assistant-Documents & Maps, Documents Division, Mansfield Library, University of Montana, Missoula, MT 59812. This compilation was prepared for an AACR 2 workshop at the Montana Library Association Convention, Missoula, May 14-16, 1981. She represented the Map Librarianship community on a panel by presenting a report of Mary Larsgaard's update on map cataloging at the WAML meeting in Salt Lake City, and a general discussion of the current state of map cataloging.

the to be published work is: AACR 2 for Cartographic Materials: a Manual of Interpretation. According to the LC Information Bulletin article it is anticipated that the manual, containing some 14 chapters, 9 appendixes, a concordance, and index, will be available in early 1982. It will be published by the American Library Association. (see NOTE below)** Myrna Fleming, Chair of WAMLs Committee on the Cataloging of Cartographic Materials, represented WAML at the April 27-May 1, 1981 meeting held at the Library of Congress where the manual was finalized.}

Moore, Barbara N. *A Manual of AACR 2 Examples for Cartographic Materials*. Published for the Minnesota AACR2 Trainers. Lake Crystal, Minn. : Soldier Creek Press, 1981.

-Good practical examples with an index by Rule number.

MAP CATALOGING -- AACR II -- CURRENT ARTICLES

Fleming, Myrna. "Cataloging of Cartographic Materials." Information Bulletin. Western Association of Map Libraries, Vol. 12, No. 1, Nov. 1980, pp. 51-53.

Fleming, Myrna. "Cataloging of Cartographic Materials." Information Bulletin. Western Association of Map Libraries, Vol. 12, No. 2, March 1981, pp. 192-195.

AACR II -- GOVERNMENT DOCUMENTS -- MAPS

"Monthly Catalog Corner." Highlights. Dec. 1980, p. 4. (Supt. of Doc. no.: GP 3.27:43.)

-GPO map cataloguers trained for AACR 2 with LC staff in Nov. 1980. The GPO has access to LC map records. All personal and corporate entries are processed through the Name Authorities Cooperative Project. Geographic names used in subject headings are established in conformity to LC guidelines. They are pursuing a goal of LC acceptance of GPO descriptive cataloging for federally issued cartographic materials.

This article also contains excellent guidelines for determining which publications are appropriate candidates for map cataloging and inclusion in a map collection.

"Monthly Catalog Corner." Highlights. Feb. 1981, p. 4. (Supt. of Doc. no.: GP 3.27: 44.)

-Beginning with the Jan. 1981 issue of the Monthly Catalog the GPO will be using AACR 2. This article describes the particular aspects of their catalog entries that will be most notably affected.

-The Monthly Catalog will be a good source of cataloging data for the greatly expanding numbers of GPO published maps.

COMPUTER TECHNOLOGY AND MAP CATALOGUING

Carrington, David K. and Elizabeth U. Mangan. *Data Preparation Manual for the Conversion of Map Cataloging Records to Machine-Readable Form*. Washington, D.C. : Library of Congress, 1971. (Supt. of Doc. no.: LC 1.6/4: M32)

SELECTION AIDS AND BIBLIOGRAPHIES

Noe, Barbara R. *Facsimiles of Maps and Atlases : A List of Reproductions For Sale by Various Publishers and Distributors*.
Fourth Edition. Washington : Library of Congress Geography
and Map Division, 1980. (Supt. of Doc. no.: LC 5.2: M32/5)

Copyright Office. Library of Congress. *Catalog of Copyright Entries, Fourth Series : Maps*. Washington, D.C. : 1980. Vol. 1,
Part 6, Nos. 1-2. (Supt. of Doc. no.: LC3.6/6: 1/6/no.1-2)

United States Geological Survey. *Maps Published of Antarctica by the U.S. Geological Survey*. GPO, Sept. 1977. (Supt. of Doc. no.: I 19.14/2: M32/10.)

SELECTION AIDS AND BIBLIOGRAPHIES - SCHOOL AND SMALL LIBRARIES

Seavey, Charles A. "An Inexpensive Map Collection". School Library Journal, August 1980, p. 42.

-A short summary of how, what, and how much, to order from the U.S. Geological Survey for a nice compact, but versatile map collection for the small library.

BULLETINS OF THE THREE MAJOR ORGANIZATIONS OF MAP LIBRARIANS

Western Association of Map Libraries. *Information Bulletin*.

Special Libraries Association. Geography and Map Division.
Bulletin.

American Library Association. Map and Geography Round Table.
(MAGERT) *Baseline*.

(Vol. 1, No. 1 issued in Dec. 1980. An experimental issue was put out in Fall of 1980 entitled Information Bulletin. The title Baseline has superceded the experimental title.)

** NOTE: On October 28, 1981, the American Library Association in Chicago responded to my telephone call that the manuscript of the Manual is expected from the AACCCM Secretariat in Ottawa by the end of 1981. It will take about 9 months to prepare the manuscript for publication, depending on its complexity (i.e., number of illustrations and other production requirements that receive special attention). Therefore, the Fall of 1982 will be the earliest that we can expect to see this Manual of Interpretation in print.

The Editor

Publications of Relevance

Contributions by: MB = Mary Blakeley, University of Arizona, Tucson
 JC = Jim Coombs, Southwest Missouri State Univ; Springfield
 LC = Larry Cruse, University of California, San Diego
 PH = Phil Hoehn, University of California, Berkeley
 PI = Peter Ives, University of Illinois, Urbana
 EP = The Editor, from Publisher's blurbs & items in hand
 JP = J.B. Post, Free Library of Philadelphia

¶ Antique Map Calendar, 1982 = Calendrier de cartes anciennes

To celebrate the 75th Anniversary of the National Map Collection, the Public Archives of Canada is pleased to present this commemorative cartographic calendar. The calendar contains colour reproductions of fourteen original maps from the rich holdings of the National Map Collection in Ottawa.

EP

Published by Rosseau Publishing Corporation Ltd., Toronto, in co-operation with the National Map Collection, Public Archives of Canada, and the Canadian Government Publishing Centre, Supply and Services Canada. Catalogue Number: SA2-119/1980. ISBN 0-920-668-14-3
 Available at bookstores, including Firefly Books, 3520 Pharmacy Ave., Scarborough, Ontario, Canada M1W 2T8

¶ W. Graham Arader III, 1000 Boxwood Court, King of Prussia, PA 19406 2800 Virginia St., Houston, TX 77098

EP Catalogue 28, July 1981: The Arader Grading System for Maps, Books and Prints

The six-page statement by Donald H. Cresswell and W. Graham Arader III, included with this Catalogue (86 pages of maps & 77 items ranging in price from \$975. {Item 67. Stephen H. Long/Henry Carey & Isaac Lea. *A Map of Arkansa and other Territories of the United States. S.H. Long. Philadelphia, 1822*} to \$120,000 {Item 13. Nicolas Sanson, père. *Cartes Générales de toutes les Parties du Monde...3 vols. Paris, ca. 1670. Folio. {etc. The set contains 262 double-page, engraved maps,}}*

In accord with the Arader Grading System, item 67 is defined as: Concept—Primal impact, Condition—Very fine (9), Rarity—Mildly scarce. Item 13 is defined as: Concept—Primal impact, Aesthetics—Superb, Condition—Fine (8), Rarity—Quite rare.

The value of all items listed is \$1,070,275.00 / average \$12,591.47.

¶ W. Graham Arader III, {same addresses as above}

EP Catalogue 30, July 1981: A selection of Reference Books on historical cartography, natural history, and American Ethnology.

- ¶ Arizona. Office of Tourism.
Arizona campground directory. Phoenix, 1978.
- MB 68 x 50 cm. Includes map of Arizona national forests [1:1,250,000] with campground information on verso. free 112 N. Central Avenue, Phoenix, AZ 85004.
- ¶ Ashmore, Anne R.
EP Presidential Proclamations Concerning Public Lands: January 24, 1791 - March 19, 1936 / Numerical List and Index. Washington, D.C., Law Library, U.S. Library of Congress, 1981. LC Card No. 81-600031
free Marlene C. McGuirl, Chief, American-British Law Division, Law Library, The Library of Congress, Washington, D.C. 20540.
- Typical entry in Index:
- Zuni National Forest, Arizona and New Mexico
affected, Proc. No. 1065, 36 Stat. 2723 (July 1, 1910)
established, Proc. No. 864, 35 Stat. 2242 (Mar. 2, 1909)
modified, Proc. No. 1064, 36 Stat. 2722 (July 1, 1910)*
- ¶ Batson, R. M.
Status and future of extraterrestrial mapping programs. Apr. 1981.
- LC 29 p. refs. Presented at the 14th Congr. of the Inter. Soc. of Photogrammetry, Hamburg. 1980. Original contains color illustrations.
- NASA Contractor Report (NASA-CR-3390) Avail: NTIS HC A03/MF A01
CSCL 03B {Batson is with USGS, Flagstaff, Arizona}
- Extensive mapping programs have been completed for the Earth's Moon and for the planet Mercury, Mars, Venus, and the Galilean satellites of Jupiter (Io, Europa, Ganymede, and Callisto), are currently being mapped. The two Voyager spacecraft are expected to return data from which maps can be made of as many as six of the satellites of Saturn and two or more of the satellites of Uranus.*
- ¶ Bragg, Marion
LC Historic names and places on the Lower Mississippi River. Vicksburg, Mississippi, Mississippi River Commission, 1977. U.S. Army Corps of Engineers. GPO Depository Item No. D103.2:M69;1/2
- ¶ California Department of Transportation. Office of Geometronics.
Index of aerial photography. Sacramento, 19{year}
- LC 30 leaves ; 22 x 28 cm. + 26 leaves of col. maps (41 x 28 cm.)
Running title: Title on maps: California aerial photographic coverage.
Issued annually. 1980 is latest. Calif. Doc. No. f T940 A5 {year}
- ¶ Case, J.E. and T.L. Holcombe
Geologic-tectonic map of the Caribbean region. Reston, VA., USGS, 1980. (Miscellaneous Investigations Series Map I-1100)
- JC 3 sheets, 108 x 95 cm. or smaller 1:2,500,000 Covers W93°--W54°/N24°--N5°. Sheet 3 contains legend and tectonic-geomorphic map.
OCLC: 7329561 \$3.50

- ¶ CHECKLIST OF PRINTED MAPS of the Middle West to 1900 / Robert W. Karrow, Jr., general editor. Boston, Mass. : G.K. Hall, 1981.

13 v. in 11 : maps ; 29 cm.

- EP A project of the Hermon Dunlap Smith Center for the History of Cartography at the Newberry Library, in cooperation with [several institutions]. Includes bibliographies.

CONTENTS: v. 1. North central states region / compiled by Patricia A. Moore -- v. 2. Ohio / compiled by Stephen Gutgesell, James F. Monteith, Arlene J. Peterson -- v. 3. Indiana / compiled by Thomas Rumer -- v. 4. Illinois / compiled by David A. Cobb, including maps of Chicago compiled by Marsha L. Selmer. -- v. 5. Michigan / compiled by Le Roy Barnett -- v. 6. Wisconsin / compiled by Michael J. Fox and Elizabeth Singer Maule -- v. 7. Minnesota / compiled by Diana J. Fox -- v. 9. Missouri / compiled by Randolph K. Tibbits -- v. 10-11. North Dakota and South Dakota / compiled by Eileen H. Dopson (1 v.) -- v. 12-13. Nebraska / compiled by Helen Brooks, [and] Kansas compiled by Ann Hagedorn (1 v.)

- ¶ Cobb, David A.

- EP New Hampshire Maps to 1900 / an annotated checklist. Published by the New Hampshire Historical Society and Distributed by the University Press of New England, Hanover, New Hampshire and London, England, 1981. {Box 979, Hanover, New Hampshire 03755; tel. (603)646-3349} \$12.00 {to be reviewed in a forthcoming issue} LC No. 78-63588

- ¶ Current Geographical Publications / Additions to the Research Catalogue of The American Geographical Society Collection of The University of Wisconsin-Milwaukee Library. Roman Drazniowsky, Editor.

- EP \$25.00 per year. 10 issues per year. ISSN 0011-3514
P.O. Box 399, Milwaukee, Wisconsin 53201

This publication needs little introduction to map librarians. A standard research tool for generations (it is in its 44th volume, since 1938), CGP has always listed new books on geography and related subjects in Section Four (Selected Books and Monographs) and has listed new books and articles according to topic and region in Sections One and Two respectively. Section Three includes references to single maps, maps in books and periodicals, and atlases.

Beginning with the January, 1980, issue, CGP has begun to review selected books. The December 1980 issue {Vol. XLIII, Number 10} includes a review by Howard Deller (AGS Collection Literature Analyst) of the WAML Occasional Paper No. 7; Index to Nineteenth Century City Plans Appearing in Guidebooks, by Harold Otness. (WAML, 1980). {p. 763-4}

- ¶ Ellison, John W.

- PH Maps: Storage and Care Self-Evaluation Form. -- Buffalo : Information and Library Studies, State University of New York, 1979.

15 p. ERIC Reports ED 181 882 (ERIC Document Reproduction Service, Washington, D.C. 20202. \$1.82 hard copy

- ¶ Fabiano, E.B. and N.W. Peddie
 JC Magnetic declination in the United States - Epoch 1980. Reston, VA, USGS, 1980. (Miscellaneous Investigations Series Map I-1283.)
 1 map 65 x 96 cm. 1:5,000,000 on verso: Hawaii 1:7,500,000; Alaska 1:5,000,000 \$1.50? OCLC: 6928709

- ¶ Farrell, Barbara and Aileen Desbarats
 EP Guide for a small map collection / a book of basics, for newcomers in charge of a small map collection. Ottawa, Association of Canadian Map Libraries, 1981.

\$12.50 Association of Canadian Map Libraries, c/o National Map Collection, Public Archives of Canada, 395 Wellington St., Ottawa, Ontario K1A 0N3 Canada.

Aileen Desbarats, Map Library, Morisset Library, University of Ottawa, and Barbara Farrell, Map Library, Carleton University, Ottawa, have collaborated in this for ACML - but its application may be used far beyond the borders of Canada. From the jacket:

Most members of the ACML have at some point in their careers been approached by newcomers to the field in search of information and advice. Often, these newcomers have been given responsibility for a small map collection as but one aspect of their daily work, and they lack the training necessary to help them approach their task. The challenge to trained map librarians is to sift and select from their knowledge and experience just enough information and advice to get these newcomers started at a level of operation consistent with the needs of a small collection -- but not to confuse them with too much detail.

In order to facilitate the passing on of this kind of information, the ACML decided to produce and publish a guide containing much of the distilled wisdom of its members. Subjects dealt with include such basic issues as the nature of maps themselves, what makes them different from other library materials and how they are acquired, stored and used. The operation of a limited reference service is described and simple guidelines for the management of the collection are spelt out.

- ¶ Federal Lands / An exclusive news weekly covering fuels and minerals on-shore and offshore. New York, McGraw-Hill, Inc., 1981+

EP \$325. per year in U.S. and Canada; \$350. elsewhere (air mail)
 ISSN 0-163-948X {the Aug. 10, 1981 issue is 8p., 8½ x 11 inches}

- ¶ Fire Insurance Maps in the Library of Congress: Plans of North American Cities and Towns Produced by the Sanborn Map Company.

EP {see a review of this work by Phil Hoehn in this issue}

- ¶ Richard Fitch, Old Maps and Prints, 2324 Calle Halcon, Santa Fe, New Mexico 87501 (505)982-2939

EP Catalogue No. 37: Americana. 1981. 251 items, 67 illus.

- ¶ Forest Industries Mill Map. 3rd Edition. San Francisco, Forest Industries, 1981?

EP 50 x 38 inches. \$22.50 FOB New York. Prices range up to \$125. depending on mounting. This map shows the location of 2,000 sawmills, plywood, particle-board, hardboard and insulation board mills in the U.S. and Canada. Information is based on the 1979 edition of the Directory of the Forest Products Industry. A geographical index is printed on the sheet.

Book & Map Dept., Forest Industries, 500 Howard St., San Francisco 94105

- ¶ Forsyth Travel Library. P.O. Box 2975, Shawnee Mission, Kansas 66201

EP Special 1981-82 Maps Catalog {prices guaranteed through Jan. 1, 1982}

- ¶ Geo Books (Geo Abstracts) c/o University of East Anglia, Norwich NR4 7TJ
Geo Books & Geo Abstracts Complete Catalogue Spring 1981.

EP Includes everything through June 1981.

- ¶ Garrity, Thomas A. and Elmer T. Nitzschke, Jr.
Water Law Atlas, a water law primer. Socorro, New Mexico, New Mexico Bureau of Mines & Mineral Resources, 1968 (1975 reprint).

PI 28 x 22 cm. (No. 95 in Circular series) \$1.50 (50% disc. to college and public libraries) {publisher} Publications Room, Campus Station, Socorro, NM 87801 (phone 505/835-5410)

- ¶ Pitman, Walter C., III & Roger L. Larson.
Geologic Age Map of the World

LC

ANSWERS FOR JUNIORS -- Today's question is from Morton Salt:

Morton asks: "How much does it cost to make a map and where does to money come from?"

For the answer, we turn to Information Hotline (ISSN 0360-5817) December 1980, p. 20:

{Information Research Grants and Contracts / official summaries of new NSF-funded projects}

"GEOLOGIC AGE MAP OF THE WORLD, Columbia University, Walter C. Pitman, III, Roger L. Larson, \$45,602, 11-1-80 to 4-30-82, OCE-7902981 A01.

The objective of this project is to compile a world map showing the geologic age of crustal rocks beneath the world's oceans, as well as the age of "basement" rock out-crops on the continents and in continental margin areas. This task is an extension of a similar project completed by the same Principal Investigators in 1974. In the five years following this initial effort, there has been a significant increase in the availability of new data from ocean regions, largely as a result of crustal drilling (DSDP) and shipboard magnetics. This new map will be prepared at a scale of approximately 1:23,000,000, which is identical to that of Heezen and Tharp's recently compiled Ocean Floor Panorama."

- ¶ Geologic Time Illustrated. Albuquerque, NM, Technology Application Center, 1981.

EP A chart, as titled above, is available for \$3.75 from the publisher at Technology Application Center, University of New Mexico, Albuquerque, NM 87131

32 x 24 inches, printed in brown ink on beige parchment-like paper. It is a combination of artistic drawing, tabular data, and concise textual description of major geologic and evolutionary events.

- ¶ GOVERNMENT DATA SYSTEMS is published by United Business Publications, Inc. \$10.00 per year US; \$16.00 Canada & Foreign. 475 Park Ave South, New York, NY 10016

JP

Volume 10, No. 3 (May/June 1981) includes a feature article on *The U.S. Geological Survey in the Age of Digital Electronics*. The Newsfronts column includes some city maps.

- ¶ Guide to Bicycle Touring Routes between hostels in Eastern Pennsylvania and New Jersey. 1981 edition. Philadelphia, Delaware Valley Council of American Youth Hostels, Inc., 1981.

JP

This new guide comprises a series of 20 strip maps showing detailed bicycle routes between 14 hostels from the Susquehanna River to the Jersey Shore, and from Philadelphia north to the Pocono Mountains. Additional routes connect to all Amtrak stations in the region which accept bicycles as baggage.

Cartography by Robert P. Thomas. \$3.50 +.50 post. Make checks payable to AYH and mail to American Youth Hostels, 35 S. 3d St., Philadelphia, PA 19106 (tel. 215/825-6004)

- ¶ Hecht, Melvin and Richard W. Reeves
The Arizona Atlas. Tucson, Arizona: Office of Arid Lands Studies, University of Arizona, 1981.

MB

164 p. 21 x 30 cm. \$12.95 {publisher} University of Arizona, Tucson, AZ 85721

The focus of this new atlas is Arizona's people. Emphasis is placed on the *distribution of Arizona's inhabitants, the origin of this distribution and the evolving relationships of population distribution, both with the lands of the state and with the larger regions*. Throughout the atlas sections covering population, the economy, climate, comfort, health, non-climatic amenities, internal organizations, regional setting and changes are fully described and illustrated by a variety of maps. The text was written by Dr. Melvin Hecht of the Department of Geography and Regional Development, University of Arizona, and the maps were produced under the direction of Dr. Richard W. Reeves in the cartographic laboratory of the Department of Geography and Regional Development.

- ¶ Journal of Environmental Psychology Volume 1, 1981 (quarterly) No. 1 March

EP

\$58.00 A new international journal for the study of relationships between people and their physical surroundings. Academic Press.

¶ Landis Aerial Photo.

Air photo atlas of — Tucson; Phoenix; San Diego; Denver; Colorado Springs; Dallas; Ft. Worth.

LC 49 x 49 cm. scale varies {San Diego is 1:14,400} prices vary, \$200. - \$500. depending on size of city. lithographic; discount for standing orders; about \$5 per page; includes index. Annual.

George Guilford, Landis Aerial Photo, 9484 Chesapeake Dr., Suite 802, San Diego, CA 92123 (phone 714/279-3710)

¶ MAC Publishing, Inc., P.O. Box 7037, Colorado Springs, CO 80933
Railroad Maps.

JP 344 railroads, 5 volumes, 1108 maps. \$12.95 each volume incl. post. Originally prepared for U.S. Department of Transportation.

Volumes are organized as follows:

WEST: WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM

PRAIRIE: ND, SD, NE, KS, OK, TX, MN, IA, MO

MIDWEST: WI, IL, MI, IN, OH, WV

EAST: NY, PA, NJ, DE, MD, ME, NH, VT, MA, CT, RI

SOUTH: AR, LA, KY, TN, MS, AL, VA, NC, SC, GA, FL

¶ MAD Magazine. Winter 1981. A MAD Pictorial Map of the United States.

JP "... featuring Sergio Aragones's full-color, illustrated, 20" x 30" Mad Map of the U.S.A., with close-up details of Los Angeles, New York, Alaska & Hawaii on the back!"

"MIRTH OF A NATION! Mainly, you'll be in states of constant laughter with Sergio Aragones's "Mad Map of the U.S.A." in

Chart a course for your favorite newsstand now!" \$1.75

¶ Martyn, John

EP Report on the evaluation of INFOTERRA for the United Nations Environment Programme. Paris, United Nations Educational, Scientific and Cultural Organization, April 1981. (PGI.81/WS/5)

The Infoterra network is a mechanism for inter-connecting users of environmental information with sources of such information in their own or other countries. It has focal points in a hundred and ten countries, and has registered some eight thousand five hundred sources of information in seventy-nine countries.

¶ Overbey, Charles

LC {Maps of the gold in North Carolina and Virginia are now available, and Overbey is working on ones for Georgia, Alabama and South Carolina.}

"There is gold in them thar hills and Charles Overbey wants to help you find it. The hills are the Appalachian Mountains of the Southeast U.S., and after extensive research, Overbey, an engineer and retired NASA executive, has put together detailed maps of just where that gold is — all the way from Alabama to northwest of Washington, D.C.

The maps cost \$6 per state and can be obtained by sending a check to Big Ten, Inc. P.O. Box 1231, Cocoa Beach, FL 32931"

¶ PELENNORATH. Rod Walker, 1273 Crest Dr., Encinitas, CA 92024

What is PELENNORATH? It is a publication dealing with the geography of created worlds in fantasy & science fiction literature. It will feature articles, maps, letters, and other materials related to this topic.

JP Six issues per year are planned. Single issues \$1.; subscriptions are 5 issues for \$4. Each issue will be approximately 20 5½ x 8½ pages and will be mailed first class. PELENNORATH No. 1, dated 17 December 1980, is now available.

¶ Resource Information Systems in California Local Government. Paul M. Wilson, Consultant. Sacramento, Office of Planning and Research, Environmental Data Center, 1978. {1400 Tenth St., Sacramento, CA 95814}

JC

...Fifty cities, counties, and regional agencies were identified... as having some type of system for handling geographic data. ...Each of these systems is covered individually by a survey form in the Appendix. The concluding part of this section summarizes the inventory, looking at the overall effect of the systems from a statewide viewpoint. Maps and a statistical summary table are used to supplement this section.

California document no. CAL P582 R42

¶ SEIKO QUARTZ

"World Timer Alarm" The future of time travel. Seiko Quartz World Timer with Alarm and World Map. Now Seiko brings you the Time Traveler. A watch that can tell you the time in 19 world times zones at the touch of a button. It's just one of Seiko's new generation of time machines that combine unmatched technology with practical benefits. What's more, Seiko adds an alarm function to make it the complete watch for the man who's going places. It's the only watch like it on earth. Or anywhere else. SEIKO QUARTZ The future never looked so good. {the advertisement does not quote the price}

JP

¶ SnyderScope. P.O. Box 6526, San Diego, California 92106
Mexican Nautical Charts & Publications / for navigating the Atlantic and Pacific Waters of Mexico. Charts and publications issued by the Direccion General de Oceanografia, Mexico.

LC Catalog cites publication or chart number, title of same in English, scale, date of issue, and price. Charts are indicated whether in fathoms, feet, meters. Most charts are listed at \$10.50 US\$. Orders must be prepaid, allow 6 to 8 weeks for delivery. Catalog gives ordering instructions, including shipping charges.

¶ The Washington Ear, Inc.
Tactile and large-print atlas of greater Washington, D.C. Washington, The Washington Ear, Inc., 1981. {35 University Blvd., East; Silver Spring, MD 20901 (tel. 301/681-6636)}

EP

14 maps with over 230 entries in index. \$12. raised-line/Braille set; \$5. for large print paper set.

- ¶ U.S. Department of Agriculture
 LC AgRISTARS Annual Report FY 1980 = A Joint Program for Agriculture
 and Resources Inventory Surveys Through Aerospace Remote Sensing.
 GPO Depository No. A 1.132:980
- ¶ U.S. Geological Survey
Geographic Names Information System (GNIS)
 EP All states of the U.S. are to be included in GNIS. Alphabetical find-
 ing lists of place names already available on computer magnetic tape
 for 29 states.
 For each feature listed, the file provides information on the official
 name, the type of feature, location by county and geographic coordi-
 nates, variant names, elevation where applicable and the names of
 USGS topographic maps on which the feature is located.
 As each set of place names is compiled USGS is making it available
 to the public, either on magnetic tape printout or on Microfiche.
 Eventually the files will be incorporated into the first National
 Gazetteer of the United States, being prepared by the USGS in cooper-
 ation with the U.S. Board on Geographic Names. The National Gazetteer
 will contain almost 2 million place and feature names. The USGS ex-
 pects to complete GNIS coverage, and the corresponding National Gaze-
 tteer chapters, for all the states and territories sometime in 1982.
 As of June 1981 there were 29 States of the 50 available on com-
 puter printout, ranging in price from \$3.00 to \$20.00. Three are
 available on microfiche at \$1.50 each: Colorado (with 28,000 names),
 Indiana, and Kansas.
 Products may be ordered from U.S. Geological Survey, NCIC, 507 Nation-
 al Center, Reston, VA 22092 (phone 703/860-6045). Prepayment is re-
 quired. The Colorado listing is available from USGS Box 25046, Mail
 Stop 504, Federal Center, Denver, CO 80225 (telephone 303/234-2326)
- ¶ U.S. Geological Survey
 EP New Map of Colonial Virginia Now Available: Colonial National Histor-
ical Park, Virginia. Reston, VA., U.S.G.S., 1981. 1:25,000. \$2.00
 English and French editions - prepared in honor of the bicentennial
 of the surrender of Lord Cornwallis, commander of the British troops
 during the Revolutionary War, to General George Washington, on Oct.
 19, 1781, the map sheet includes a large, detailed map of the York-
 town battlefield, a topographic map showing many cultural details in
 the historic triangle region that includes Williamsburg, Yorktown,
 and Jamestown.
- ¶ U.S. Geological Survey
A Guide to Obtaining Information from the USGS, 1981. U.S.G.S. Cir-
 cular 777.
 free. U.S. Geological Survey, Text Products Section, Eastern Distri-
 bution Branch, 604 South Pickett St., Alexandria, VA 22304.

- ¶ U.S. National Ocean Survey
Map and Chart Catalog 5, United States: Bathymetric maps and special purpose charts. January 1981.
free Published quarterly. Distribution Division C44, National Ocean Survey, 6501 Lafayette Ave., Riverdale, Maryland 20840 (tel. 301/436-6990)
- EP Includes bathymetric maps, marine boundary charts (200 mile limit), marine boundary maps (3 and 12 mile limit), geophysical maps, marine weather service charts, offshore mineral leasing area maps, storm evacuation maps, tidal current charts, topographic-bathymetric maps (the latter are the USGS 1:250,000 topo/bathy editions that are standard USGS products). IHB-GEBCO charts of Alaska are included.
- ¶ U.S. National Ocean Survey
Dates of Latest Editions/VFR Aeronautical Charts. monthly. (same address as above)
 LC
- Cites Sectional Aeronautical Charts, VFR Terminal Area Charts, etc. [VFR = visual flight rules] The June 1, 1981 list includes a new VFR Helicopter Chart to add to the 1:250,000 Los Angeles & Vicinity chart which is in its 5th edition (Aug. 7, 1980): 1:500,000 Gulf Coast, U.S. 1st edition (Nov. 27, 1980) \$1.60.
- ¶ Volcanoes of the World / A regional directory, gazetteer, and chronology of volcanism during the last 10,000 years. by T. Simkin, L. Siebert, L. McClelland, D. Bridge (all of the Smithsonian Institution), C. Newhall (Dartmouth), and J.H. Latter (DSIR, New Zealand).
 EP New York, Academic Press, 1981. 240 p. \$19.75 ISBN 0-12-787478-X
- ¶ Westport Land Records Project, Newsletter of the
 EP Vol. 1, Number 1. 1981. Dane County, Wisconsin & Dept. of Landscape Architecture, University of Wisconsin, 25 Agriculture Hall, Madison, WI 53706.
 A cooperative project concerned with developing a cadastre-based computerized data management system for the Township of Westport in Dane County, Wisconsin.
- ¶ Wilford, John Noble
Mapmakers. New York, Knopf (Random House), 1981. \$20.00 list
 414 pages. LC No. 80-2716. ISBN 0-394-46194-0
- EP It was noted in the last issue (p. 303) that this book had been reviewed in the New York Times Book Review (May 3, 1981, p. 3 & 28). This seems to have received more attention than any other book on the history of cartography in the past decade. The New Yorker reviewed it on Aug. 24, 1981 (p. 98), and Newsweek on June 15, 1981 (p. 94).
 Wilford is also the author of an article on this subject in Science Digest for October 1981 (pp. 66-73). Accompanying the article are five maps and three satellite infra-red images.
- ¶ World Mines Register 1981-82 edition. San Francisco, Miller Freeman, 1981?
 \$87.00 (\$20. add. for overseas Air Printed Matter shipping)
 EP Includes active mining companies, minerals and metals index, worldwide alphabetical cross-reference, directory of mining executives, equipment buyer guide, and telephone/telex directory.

Meeting of the Executive Committee
Western Association of Map Libraries (WAML)
Fall Meeting - September 10, 1981 at
University House, University of Alberta

A meeting of the Executive Committee was called to order at 10:30am by President Barbara Cox at University House on the University of Alberta campus.

Members present were President Cox; Riley Moffat, Vice-President; Stan Stevens, Treasurer; Janet Collins, Secretary; David Lundquist, Past-President; Ron Whistance-Smith, and Donna Koepp.

FUTURE MEETINGS

The Spring 1982 meeting will be held March 25 and 26 at Stanford University in Palo Alto. Hostess will be Karyl Tonge. Larry Carver at U.C. Santa Barbara has accepted the suggestion that he host the Fall 1982 meetings. No tentative dates have been set as yet.

TREASURER'S REPORT AND PUBLICATION COSTS

The treasurer's Report was given by Stan Stevens. It was noted that it was a good decision to overprint the workshop manual. It is sold out and is now out of print. A major expense this past year has been the printing of occasional papers. Work is in progress on Occasional Paper #6 and is a high priority for publishing before the first of the year.

PUBLICATIONS COMMITTEE

Peter Stark, Central Washington University, has been appointed to fill the vacancy on the Publications Committee. The Publications Committee will look into publishing an "Index to Geologic Mapping in California".

ENDOWMENT FUND

An anonymous donor has offered \$200-\$300 to establish an endowment fund. WAML will accept the offer and pursue tax exempt status.

MAGERT EXECUTIVE COUNCIL

David Lundquist reported on the Magert Executive Council meeting and has submitted his resignation as WAML representative. Donna Koepp has been appointed to fill the position for a year.

CATALOGING COMMITTEE

The possibility of holding a cataloging workshop after a WAML meeting was discussed. It was suggested that the workshop be

MINUTES
General Meeting
Western Association of Map Libraries (WAML)
Fall Meeting - September 10-11, 1981
University of Alberta, Edmonton

The meeting was convened Thursday, September 10, 1981 at 1:20pm at University House on the University of Alberta campus. Barbara Cox, WAML President, welcomed the participants and introduced R. Geoffrey Ironside, chairman of the Geography Department. Ron Whistance-Smith, host for the meeting, discussed dinner arrangements and mentioned the availability of duplicate maps. He also mentioned that an exhibit on the History of Swiss Cartography was set up for viewing, and is now a permanent part of the University of Alberta Map Collection. Changes in the program were noted.

WAML Business Meeting

The business meeting followed introductions. The Executive Committee meeting minutes were read by Janet Collins, Secretary. Stan Stevens followed by suggesting that an AD HOC Committee be formed to devise a questionnaire to compile a directory of map collections within our region; the level of which to be determined. The project would hopefully motivate WAML members to get more involved in activities of WAML. Interested members should contact Barbara Cox. Stan Stevens then gave the Treasurer's report. He noted that the Income-Expense Report will be published in summary form in the next WAML Bulletin. The report included information on last year's cost of publishing Occasional Papers, the status of Occasional Paper Sales, and noted that reviews are helpful in sales and that additional publicity will be pursued. Barbara Cox then noted that the WAML Spring 1982 meeting will be held March 25 and 26 at Stanford University. Karyl Tonge will be hostess. Larry Carver has accepted the invitation to host the Fall 1982 meeting at U.C. Santa Barbara. No tentative dates have been set. Stan Stevens noted that members can obtain Occasional Papers at a 40% discount. Ron Whistance-Smith mentioned that the WAML Bulletin take two months to arrive. It was determined that the Bulletin can be sent first class and the member billed for the difference in postage.

Sounding Board

Mary Larsgaard mentioned that the United Nations is still looking for a Map Librarian. Contact Mary or Christine Windeuser for additional information.

Steve Hiller noted that Anna Chiong, Librarian, University of Washington Geography Department, will be retiring December 31st.

Lou Sebert, Surveys and Mapping Branch, Department of Energy, Mines and Resources mentioned a boundary dispute between the U.S. and Canada (territorial limits) in the Georges Bank area of the Gulf of Maine. It may possibly result in the production of two atlases showing historical maps of the area.

Ron Whistance-Smith mentioned that an "Antique Map Calendar" for 1982 is available from the Canadian Ministry of Supply.

Mary Larsgaard announced that the Cataloging Manual will hopefully be going to press in September. Additional information is available from Mary Alice Treat.

Steve Hiller mentioned that a survey of the condition of maps in the University of Washington has been recently completed. The survey was based on 1) internal composition (chemical properties of paper), 2) external use and 3) the housing of the material. Results: 20% good, 70% fair, 10% poor.

Ron Whistance-Smith announced that the Association of Canadian Map Libraries (ACML) is preparing a directory of Canadian Map Libraries.

Barbara Cox is interested in knowing if other WAML members have been approached by NCIC to transfer records onto their forms and assist them in preparing a National Cartographic Catalogue.

Members were encouraged to write Congressmen for funding beyond this fiscal year for the National Atlas project.

Lou Sebert and N.L. Nicholson have co-authored Maps of Canada which traces the development of mapping programs in Canada. It is available through Arcon Press in Hampton, Connecticut.

Map of Benicia

The first presentation was given by David Lundquist, U.C. Davis, and centered on a 1850-51 map of Benicia, California. He pointed out that very little is known about the cartographer Benjamin W. Barlow. David noted that the map is significant for a number of reasons. It predates the gold rush, Benicia was one of the early capitals of California, it was a major military facility, it was a planned and promoter-inspired community, it was hoped that California would be a starting point for the gold fields, and it also gave a glimpse of hopes and dreams of the time. He concluded the presentation by mentioning his difficulty in locating information about the cartographer and map and requested input from the audience.

Resource Mapping In Calgary

The next presentation was given by Bob Batchelder of the University of Calgary, Map and Airphoto Division. He traced the history of Calgary and noted that the city is growing rapidly. Bob also mentioned that most Canadian oil and gas is located in Alberta. As a result, much mapping is done. Air photos are often used to update the maps. Bob then reviewed map companies and the type of maps produced.

The Thursday session was adjourned following this presentation. The evening was finished off with a good Greek Dinner, complete with entertainment, and a tour of Edmonton by night.

Mount St. Helens Aerial Photography

The first Friday presentation was given by Steve Hiller, Map Librarian, University of Washington. He traced the history and events leading up to the eruption and after through use of aerial photography. Steve noted that air photos are easy to store, easy to acquire and are fairly inexpensive. He examined four aspects of the eruption. Those included; change in the mountain form, crater and dome building, hydrology of streams and lakes, and an overview of the blast area. (The air photos were later available for viewing with stereoscopes.)

Geographical Mapping in the Canadian Arctic

Dr. William Wonders, Geography Department, University of Alberta gave the next presentation. He traced mapping in the Canadian Arctic and noted its link to historical explorations. Dr. Wonders mentioned that Canadians were among the first to use aerial photos for mapping, and that computers and remote sensing provide much assistance to mapping. He also noted that important factors in mapping the Canadian Arctic have been; climate, distance, and the remoteness of the area.

Telidon

The next presentation was given by Tomislav Milinusic and Don Cowper, both of Athabasca University. They discussed the computer applications of the Telidon system in examining Historical Cartography. Don discussed the capabilities of Telidon and Tomislav detailed its use in a study of Cyprus he had started about two years ago. The study established a method of evaluating historical discoveries through cartographic materials. He examined thirteen historical maps of Cyprus and was able to determine through the use of Telidon the accuracy of the coastal outlines of the maps. He concluded that the methodology has some value, perhaps looking at other islands, and that it would be interesting to rewrite the history of discovery through one of these approaches.

The session was then recessed for lunch.

Air Photos: Importance, Storage, Handling, Access

The afternoon session began with a presentation by Ron Whistance-Smith, Curator, University of Alberta. He emphasized that air photos are essential companions to maps, and that in many cases are better than a map because they are a complete document. Ron also mentioned their applications, their wide range of uses, and different types of air photo products. Discussion followed on storage, classification, and indexing. Air photos at the University of Alberta are arranged by scale, the NTS number, and year. Ron concluded by mentioning that Landsat Mosaics of Canada at 1:1,000,000 can be purchased from the National Air Photo Library.

Canadian Federal Mapping

Lou Sebert of the Surveys and Mapping Branch, Department of Energy, Mines and Resources spoke next on federal mapping. He explained the type of maps published by each branch, and mentioned that the Canada Map Office is capable of distributing maps by all branches but that some agencies choose to distribute their own for various reasons. Mr. Sebert also noted that the Department of Energy, Mines and Resources does printing for other government agencies. He mentioned that the Canada Map Office distributes a "List of Publications" on paper copy and via microfiche which is available from Ottawa. The Canadian government hopes to have the 1:50,000 topographic series finished within the next decade. They have stopped working on the 1:25,000 topographic series because most all of the provinces have active mapping agencies producing large scale topos.

Trends in Provincial Mapping

The final presentation was given by Ed Kennedy, Director of Mapping, Alberta Bureau of Surveying and Mapping. He reviewed the status of mapping for each province, digitizing, the scales mapped, source of funding, percentage completed, and expected date of completion for the different series.

Adjournment

The meeting was adjourned by President Cox at 4:30 p.m. Most participants were able to attend dinner provided by Ron and his family at their home later in the evening. We all greatly appreciated Ron's hospitality, efforts, and organization, which provided for a most successful and interesting fall meeting.

INCOME-EXPENSE REPORT

WESTERN ASSOCIATION OF MAP LIBRARIES

For Period Fiscal Year July 1, 1979 thru June 30, 1980Date June 30, 1980

and Volume 11 year of the Information Bulletin.

Previous Balance . . .

\$3,113.	63
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A

INCOME		AMOUNT
Source	Memberships: 122 Principal Region Individual; 60 Associate Individuals; 31 Institutional Members	\$ 2,593.96
¶	Subscriptions to Information Bulletin: 189 + \$128.88†	\$ 2,018.88
¶	Sale of Back Issues of Information Bulletin (post)	\$ 65.77
¶	Sale of Occasional Papers, incl. tax collected \$8.37	\$ 911.37
¶	Misc: Interest \$231.43	
	Tucson Registration \$585.00	
	Tucson Transportation \$81.00	
	Extra Sale of Cataloging Manual \$406.76	
	Income from Advertising in IB: \$145.00	
	Davis Registration \$345.00	\$ 1,794.19
TOTAL INCOME		\$ 7,384.17

- \$46.19
1978/79 Inc.
Due declared
not collectable

\$10,451.	61
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B

EXPENSE		AMOUNT
¶	Information Bulletin Production Expense	\$ 3,848.37
¶	Treasurer's Expenses: Invoices, Printing, Postage, etc.	505.85 *
¶	Kroytype Lettering Machine & supplies	\$ 1,066.71
¶	WAML Meeting Expense: Tucson {net loss \$50.18}	\$ 1,122.94
	Davis {net loss \$33.80}	\$ 378.80
¶	WAML Committee Expense: Nominating Committee post etc.	\$ 28.63
	Membership & Hospitality	\$ 8.10
* Includes \$11.05 Sales Tax Remitted to State of Calif.		
TOTAL EXPENSE		\$ 6,959.40

\$ 6,959.	40
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CSubmitted by Stanley D. Stevens
Stanley D. Stevens, Treasurer
& Editor of Publications**NET BALANCE (A+B-C)**

\$ 3,492.	21
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Comments

Sale of Occasional Papers:	Cost of Publication	Need to Sell	Sold to Date	Need to Sell
OP No. 1 Published 1973	\$ 1,076.16	269 @ \$4	241	28
OP No. 2 Published 1976	\$ 1,159.68	232 @ \$5	256	--
OP No. 3 Published 1977	\$ 957.21	160 @ \$6	123@ \$6/46@ \$5	--
OP No. 4 Published 1978	\$ 1,065.50	178 @ \$6	125	53
OP No. 5 Published 1978	\$ 649.85	163 @ \$4	81	82

The sale of 53 remaining copies of the Cataloging Workshop Manual, produced for the Tucson Meeting, Oct. 25-27, 1979, provided the needed income to bring WAML in line with expenses for the meeting. The Cataloging Workshop Manual is now Out-of-Print.

INCOME-EXPENSE REPORT

WESTERN ASSOCIATION OF MAP LIBRARIES

For Period Fiscal Year July 1, 1980 thru June 30, 1981 Date June 30, 1981

and Volume 12 of the Information Bulletin

Previous Balance . . . \$3,492. 21 **A**

INCOME		AMOUNT			
Source	Memberships: 125 Principal Region Individual; 59 Associate Individuals; 34 Institutional Members	\$ 2,689.	96	- \$ 6.90 1979/1980 Income Due Not Collectable	
	Subscriptions to Information Bulletin: 197 + \$142.↓	\$ 2,112.	00		
	Sale of Back Issues of Information Bulletin (post)	\$ 103.	14		
	Sale of Occasional Papers, incl. tax \$12.52 collect.	\$ 1,550.	19		
	Misc: Interest Income \$210.81				
	Income from Advertising in IB: 180.00				
	Salt Lake City Registration \$130.00				
	San Francisco Registration \$235.00	\$ 755.	81		
	Misc. Income		7. 41		
TOTAL INCOME		\$ 7,218.	51		\$10,703. 82 B

EXPENSE		AMOUNT		
	Information Bulletin Production Expense	\$ 4,460.	91	C
	Treasurer s Expenses: Invoices, Printing, Postage, etc.	\$ 226.	77	
	Occasional Papers Production Expense: No. 6 \$ 36.11			
	No. 7 \$ 828.80			
	No. 8 \$ 2,607.35	\$ 3,472.	26	
	Sales Tax on OP Sales Paid to State of Calif. (for 1980)	\$ 10.	40	
	Misc. Exp.	\$ 31.	13	
	Meeting Expense: Salt Lake City \$81.20; San Fran: \$118.11	\$ 199.	31	
	Contribution to CUAC for Letterhead Printing	\$ 42.	02	
	General Expense: Envelopes, Labels, Mailing Cartons, etc	\$ 362.	03	
	General Postage: Invoice Mailing, OP post, correspond.	\$ 347.	56	
	WAML Nominating Committee postage, etc.	\$ 24.	40	
TOTAL EXPENSE		\$ 9,176.	79	

Submitted by Stanley D. Stevens
Stanley D. Stevens, Treasurer
& Editor of Publications

NET BALANCE (A+B-C) \$ 1,527. 03

Comments

Sale of Occasional Papers:	Cost of Publication	Need to Sell	Sold to Date	Need to Sell
OP No. 1 Published 1973	\$ 1,076.16	269 \$4	256	13
OP No. 2 Published 1976	\$ 1,159.68	232 \$5	276	--
OP No. 3 Published 1977	\$ 957.21	160 \$6	130@\$6/56@\$5	--
OP No. 4 Published 1978	\$ 1,065.50	178 \$6	160	18
OP No. 5 Published 1978	\$ 649.85	163 \$4	98	65
OP No. 7 Published 1980	\$ 828.80	139 \$6	64	75
OP No. 8 Published 1981	2,607.35	261 \$10	88	173

WESTERN ASSOCIATION OF MAP LIBRARIES

Occasional Paper Series

- No. 1: *Catalog of Sanborn Atlases at California State University, Northridge*, by Gary W. Rees and Mary Hoerber. 1973. xxi, 122p. (LC # 73-5773 ; ISBN 0-939112-01-9) \$ 4.00
- No. 2: *Union List of Sanborn Fire Insurance Maps Held by Institutions in the United States and Canada, Vol. 1, Alabama to Missouri*, by R. Philip Hoehn. 1976. xvii, 178p. (LC # 76-6129 ; ISBN 0-939112-02-7) \$ 5.00
- No. 3: *Union List of Sanborn Fire Insurance Maps Held by Institutions in the United States and Canada, Vol. 2, Montana to Wyoming; Canada and Mexico*, by William S. Peterson-Hunt and Evelyn L. Woodruff; with a Supplement and Corrigenda to Volume 1, by R. Philip Hoehn. 1977. xv, 201p. (LC # 76-2129 Rev. ; ISBN 0-939112-03-5) \$ 6.00
- Occasional Papers No. 2 and No. 3 (when ordered together)
ISBN 0-939112-04-3 \$10.00
- No. 4: *Index to early twentieth century city plans appearing in guidebooks: Baedeker, Muirhead-Blue Guides, Murray, I.J.G.R., etc., plus selected other works to provide worldwide coverage of over 2,000 plans to over 1,200 communities, found in 74 guidebooks*, by Harold M. Otness. 1978. xxx, 94p. (LC # 78-15094 ; ISBN 0-939112-05-1) \$ 6.00
- No. 5: *The Maps of Fiji: a selective and annotated cartobibliography*, by Mason S. Green. 1978. xx, 70p. (LC # 78-24066 ; ISBN 0-939112-06-X) \$ 4.00
- No. 6: *Microcartography: applications for archives and libraries*, edited by Larry Cruse, with the assistance of Sylvia B. Warren. (in preparation) (ISBN 0-939112-07-8)
- No. 7: *Index to nineteenth century city plans appearing in guidebooks: Baedeker, Murray, Joanne, Black, Appleton, Meyer, plus selected other works to provide coverage of over 1,800 plans to nearly 600 communities, found in 164 guidebooks*, by Harold M. Otness. 1980. xxiv, 84p. (LC # 80-24483 ; ISBN 0-939112-08-6) \$ 6.00
- No. 8: *Printed Maps of Utah to 1900; an annotated cartobibliography*, by Riley Moore Moffat. 1981. xvi, 177p. (LC # 81-659 ; ISBN 0-939112-09-4) \$10.00

Standing orders for this Series, or single items, may be ordered from: Western Association of Map Libraries, c/o Stanley D. Stevens, Treasurer, University Library, University of California, Santa Cruz, CA 95064.

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